Shadows Over Sol

Shiny New Toys

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Tab Creations

SAGA MACHINE

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Introduction

For me, one of the most entertaining aspects of a science fiction game is getting to play around with all of the various gear options, whether I'm playing an apocalyptic survival horror scenario, where my character is forced to scrounge together anything he can, or a military sci-fi scenario, where my character is outfitted with the best kit available. When writing the **Shadows Over Sol** core rulebook I tried to cram into the gear chapter as much as I could fit without going too far over my allotted page count, and without breaking any of the three modes of horror supported by the game. Nevertheless, I always had more gear in mind, and wanted it to see the light of day. Thus the **Shiny New Toys** supplement was born.

Spaceships feature heavily in science fiction. While sci-fi horror tends to focus more on spaceships as isolated and terrifying environments, I wanted to support not only this, but the clash of vehicular combat as well. The history of vehicular rules in RPG is something of a mixed record. Too many vehicle systems boil down to one player making all the important actions while the others snooze. I wanted to ensure that the **Shadows Over Sol** vehicle rules didn't fall into the same trap. I wanted to get the whole party involved. And I hope I've done exactly that.

Thorin Tabor
April 2015

GMs Beware

Some of the options in this book may change the themes and feel of your **Shadows Over Sol** campaign. This is intentional, as it allows the game to tackle a wider variety and range of science fiction concepts.

In designing the gear list for the **Shadows Over Sol** core rulebook, we had a very clear goal in mind: We wanted to ensure that none of the gear undermined any of the modes of horror. Quite frankly, we didn't want to introduce some piece of equipment that would break anyone's survival horror scenario. While this allowed for a wide variety of gear options to be included, it excluded others.

In **Shiny New Toys** we cast this restriction to the wind. We want to broaden the types and tone of science fiction supported by the game. None of the equipment found in this supplement challenges the basic assumptions of the **Shadows Over Sol** setting in the same way as some of the content of the **Beyond Human** or **Fatal Frontier** supplements. Nevertheless, the presence of certain gear in a campaign can alter the tone of the game.

Red Planet

I told myself that I'd never go back to Mars. Not after what happened last time.

Yet there I was, staring down at the big red orb below me. God, Mars is such an ugly planet. And I was going to descend into Chi Chen, which is about as bad as it gets.

My target here was a scientist that had recently defected to Jenseitech. Sinoex wanted her back. Alive was preferable; dead was acceptable.

The whole affair was one more blip in the Dui Wu Ya Conflict. But I didn't concern myself with politics. I was just the instrument that made politics happen.

The last time I was here things got messy. I hadn't prepared for what the local syndicates and gangs could throw at me. Chi Chen is a cesspool of half-broken old tech, but a mob boss with enough credit is going to find a way to get the latest and greatest.

The lesson I forgot was that technology never stands still. Out with the old, in with the new. Evolve or die.

In days of yore they say warfare used to rely on knights. The best warriors with the best training, and the best arms and armaments money could buy. Years of specialization and a fortune in equipment. Mount one of those bad boys on a heavy horse and they say a single knight could take out an army of peasants armed with pitchforks and desperation.

But knights were obliterated by economics. Once you had firearms and mass production, it suddenly didn't matter if you had the best warrior. For the cost of outfitting a knight, a hundred peasants could be given a gun and the simple training to use it: Point-and-click. Kill. Kill. Kill.

When it didn't make economic sense to spend money on knights and their gear, people stopped doing it.

Half a century ago public spaces were filled with cameras, feeding into targeted advertising displays or noting traffic patterns. But then AR became a fad, and suddenly people had their own personalized view of the world through their glasses.

The advertising credits for public spaces dried up and took with them the budget to keep the cameras operational. This infrastructure was left to slowly crumble, as the corps made their new credits selling consumers the means of their own surveillance.

As I said, Chi Chen is a cesspool of half-broken old tech. My face was picked up by a camera half a century out of warranty. It took days for the colonial administration to notice, but once they did the shit quickly hit the fan.

I got out with my life, but lost 24 kg. That would be both legs. It took me months to have them regrown. Not to mention, the costs were more than I was paid for the job. What a waste.

Determined not the make the same mistakes this time, I had a biomorphic mask grafted to my face before I made the trip. I didn't look like me. Hell, I didn't look even close to me. I figured the mask would last a week before it began to fray—more than enough time to complete the job and get the hell out of Dodge.

The shuttle down from orbit was nice. Martian gravity is only a third of Earth's, and the atmosphere is so thin that the shuttle hardly shakes at all. Just a smooth glide, looking out at the terraforming platforms and the Martian plain. It was almost enough to make me forget what a shit hole Mars is.

That, however, quickly became apparent once I got my feet on the ground. Three hours of queueing in line at the security checkpoint and two customary bribes later, I was stepping

out into the dark Chi Chen air. It always has the faint scent air scrubbers being forced to work harder than their technical specs were designed to do—a bit like burning rubber.

The mark was almost pathetically easy to locate. Jenseitech must have decided that she didn't have any more useful information to cough up since her defection. They'd spent almost no resources concealing her. I guess it was her mistake for giving it all up so quickly.

I made note of both the location of her hab and the laboratory she worked at. I also resolved to do some footwork tracking her daily habits—or rather, drone work. This would tell me the times it would be best to catch her alone.

Her laboratory had the usual corp security, so I ruled it out almost immediately. Her hab I likewise ruled out, as it was part of a complex, crowded alongside many neighbors—neighbors who would easily hear a scream or struggle. That left getting at her during transit: always a tricky proposition.

Throughout the three days of surveillance, I kept myself busy. I hadn't come to Chi Chen with any sort of weapons. It was too easy for them to be noticed en route. Arousing the suspicion of security was the last thing I needed.

Take my advice: If you're going to be traveling through a security checkpoint, don't bring a gun. That's just asking for trouble, and is something better left to smugglers. Better to acquire a weapon after you're already through security. Some would recommend finding the local black market net nodes and making a purchase, but that can leave a trail. Me? I prefer to print my own. Just rent some time with a high end fabricator, load in your own weapon specs and wait. Some time later a gun comes out.

Back when knights were becoming obsolete, armor, too, was falling out of favor. It's not that armor wasn't useful in an era of early firearms. Armor was still good. Rather, as the expression of military power moved from a focus on individual experts to armies of conscripts, and armor didn't scale well. Armoring a hundred peasants was cost prohibitive.

All that had changed again in the last century. Armor was back in vogue—new materials and new manufacturing techniques once again making it feasible. I armored myself, slipping on a nice, concealable number as I got ready for the snatch-and-run. It was almost showtime.

I decided to corner my target scientist as she took the magtrain home at night. She was in the habit of working late, and few people would be on the train during those hours. I'd follow her into an empty car, then have the time it takes the train to reach the next station to subdue her.

At that station I had two hired thugs waiting with a groundcar and a no-questions-asked attitude. Easy peasy.

Of course, I should have realized something was off the moment I followed her onto the train. She was calm. No one's that relaxed on the public transit at night. Chi Chen is a dangerous place. But there she was, zen as fuck, even when I—the only other person on the car—sat suspiciously close to her.

I pounced. She pounced. She ripped off one of my arms with her bare hands. And I swear to god, her jaw unhinged like a snake's, and it was full of fangs.

I ran as soon as the train arrived at the next station. I've lost three limbs to Chi Chen now, and I wasn't looking to loose a fourth.

I don't know how she was so fast or so strong, but she could easily have taken down a hundred armed peasants. Maybe technology is changing again. Maybe thanks to bioengineering, the time of the knight is back upon us. Evolve or die.

Vehicles

From spaceships to groundcars and orbital shuttles to mag-trains, the Sol system is filled with all manner of vehicles. Some of these vehicles may ply the space lanes, while others may creep along the ground, but all of them share some common rules.

Vehicle Ratings

To measure vehicular performance and capabilities, all vehicles have several ratings and a few properties. These ratings are used to measure the performance and capabilities of the vehicle. The different ratings are as follows:

- **Cruise:** This will be a measure of the vehicle's typical cruising speed outside of combat. It is an abstract number used to estimate the length of a voyage (see page 11).

- **Defense:** This is a set of two TNs that determine the difficulty to hit the vehicle or to critically hit the vehicle. This works a lot like a character's Defense ratings.

- **DR:** This is the damage reduction possessed by the vehicle. It works like a character's or object's DR, except it's measured at vehicular scale (see page 11).

- **Handling:** This is a measure of how easy the vehicle is to maneuver. It acts as a modifier on attempts to drive or pilot the vehicle.

- **Properties:** This is a listing of properties possessed by the vehicle. (For a complete properties list, see the core rulebook and page 35.)

- **Shock:** This is the Shock threshold for the vehicle. This works similarly to the Shock threshold for characters.

- **Structure:** A vehicle's Structure threshold is its equivalent to a character's Wound threshold (see the *Shadows Over Sol* core rulebook).

Vehicle Stat Block

A vehicle's information will typically be presented in a stat block format similar to that of a non-player character. An example vehicle stat block is presented below. A list of vehicles is located in the Catalogue Chapter (see page 57).

- **Cost Rating:** X
- **Handling** X, **Defense** X/X, **DR** X, **Shock** X, **Structure** X, **Cruise** X
- **Properties:** Properties are listed here.
- **Attacks:** If the vehicle has any attacks, they are listed below. The attack rating assumes an average quality gunner, and the weapon's damage is given.
  The description of the vehicle would be here.

Vehicle Defense & Shock

Vehicles do not have stats as do characters; consequently, their Defense and Shock scores are calculated differently. A vehicle's Defense score is a function of its Handling. To determine a vehicle's Defense start with "Defense 7/15" and then modify each Defense TN by its handling modifier.

Example: A new experimental Unitech freighter has Handling -1. This modifies its Defense score, meaning it has Defense 6/14.

A vehicle's Defense score presumes it is being actively piloted in a way that can evade incoming attacks, and that the pilot is aware of the incoming attacks. For attacks of which the pilot is unaware, for stationary vehicles or for attacks the vehicle can't reasonably maneuver around, simply assume the attack hits.

A vehicle's Shock threshold, on the other hand, is a function of its Structure and DR. First, gauge the vehicle's Structure and DR based on the size and solidness of the vehicle. Shock is then calculated as Structure + DR + 5.

Example: The experimental Unitech freighter has DR 2 and Structure 6. This means its Shock threshold is 13.

Vehicles in Personal Combat

Vehicles may sometimes feature in scenes of personal combat. In many such scenes, the vehicles included will function primarily as moving platforms, adding a dynamic element and danger to the scene—for example, a gunfight on top of a moving mag-train or a groundcar chase through the streets of a crowded city.

In these scenes, the GM is encouraged to let the narrative drive the vehicular action, referring to the vehicle rules only for the Handling rating which modifies vehicles skill actions to maneuver them, or for the vehicle's DR and Shock ratings should the vehicle take damage. After all, tracking a vehicle's top speed and acceleration isn't a critical component of horror—only the danger is.

Other combat scenes will be outside the scope of personal combat. They will focus on vehicles fighting other vehicles. For this, we present the vehicular combat rules.

Vehicular Scale Damage

Unless otherwise noted in a vehicle's description or properties, a vehicle's DR and damage are rated on a different scale than the one used in personal combat. This makes sense, as most personal weapons will barely scratch a spaceship's paint.

In general, a GM can simply compare personal scale damage against personal scale DR, and vehicular damage against vehicular DR. Cases where a vehicle is firing against an individual or vice versa are few and far between. If a conversion is needed between personal and vehicular scale damage, however, simply treat vehicular damage as 10 times that of the personal scale.

Example: A spaceship gun doing 10M damage hits an engineer in space. Converting the vehicular scale damage to personal damage, the engineer takes 100M—enough to likely make her a thick red paste.

Example: Jon is firing desperately at a ship with his pistol as it takes off. He attacks and deals 8M damage. Converting to vehicular scale, this is 0M (always round down). He effectively does no real damage.
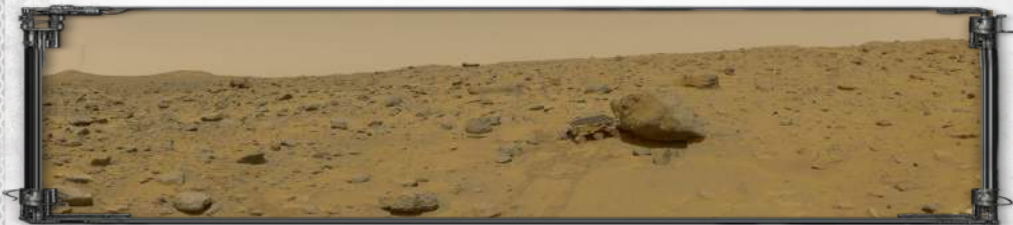
Cruise Values

A vehicle's Cruise score is an abstract measure of the vehicle's typical cruising speed. This score is can be used in conjunction with the voyage tables to determine the length of the voyage, if necessary (see page 17).

The Cruise score for space vehicles and planetary vehicles are not comparable. They both represent a cruising speed relative to the typical distances those vehicles travel. Space vehicles are going to be measured on an interplanetary scale, whereas ground vehicles are going to be measured on a terrestrial scale.

To estimate the Cruise score of planetary vehicles, figure out their typical cruising velocity in kilometers per hour and divide by 100. So, a vehicle which typically travels at around 200 kph will have Cruise 2.

Estimating the Cruise score of a space vehicle, on the other hand, is more a matter of considering the vehicle's acceleration rather than velocity, as space voyages usually consist of accelerating periodically until the midpoint of the trip is reached, then periodically decelerating thereafter. The frequency with which a ship can accelerate depends on the efficiency of its engines and a number of other complicated factors.

Vehicular Combat

The vehicular combat system is intended to resolve scenes that primarily feature vehicles fighting other vehicles, such as the iconic space battle seen throughout science fiction. This system builds off the personal combat system and uses all the same rules, except where otherwise noted.

Rounds

Vehicular combat takes place on a longer timeframe than personal combat. As such, every round of vehicular combat is considered to last 10 minutes. This means entire personal combat skirmishes can take place between rounds of vehicular combat, if necessary, and characters can usually change crew positions freely between individual rounds.

Boost (Reaction)

Whenever a character takes a vehicular combat action, she may spend any remaining AP she has to provide a bonus on the action. This gives her a +2 bonus per AP spent in this way. For example, a gunner might declare a single attack during Phase 2, holding on to 1 AP. When it comes time to execute this action, she declares a boost reaction, spending her remaining AP and gaining a +2 bonus to the attack.

Vehicular Shock

When damage to a vehicle equals or exceeds its Shock threshold, the damage is staged up a severity, just as with damage to characters. Unlike with damage to characters, however, the vehicle does not gain the Stun consequence. Instead, it begins to spin out. This increases the Spin consequence on the vehicle a severity. The penalty from this consequence applies to all actions taken in the vehicle. The pilot can take an interact action to regain control of the vehicle, just as a character would normally take a move action to regain control of her own movement with the Spin consequence.

Structural Damage

When a vehicle takes damage, it results in a Wound consequence for the vehicle. Unlike with a character, the Wound consequence penalty applies to all vehicular combat actions undertaken by the crew of the vehicle until negated (see "Mechanic" on page 15). It also counts against the vehicle's Structure threshold. This works very much like wounds on a character, only it counts against its Structure rather than against a Wound threshold.

When the number of Wound severities equals or exceeds a vehicle's Structure threshold, the vehicle breaks down. This is the place of the usual dying gasps for a character. A vehicle that has broken down cannot be used to perform actions. It cannot maneuver, nor does it have sufficient power to operate any of its systems. If it's a spaceship, the ship

is simply dead in space. If it's a ground vehicle, it is totaled.

Vehicles that reach twice their Structure threshold in Wound severities are completely destroyed, likely causing damage to all remaining crew.

Critical Hits on Vehicles

When a critical hit is scored on a vehicle, this hit may damage the vehicle's critical systems or crew as well as dealing the usual structural damage. When dealing a critical hit to a vehicle, the attacker may instead choose from the following two vehicular critical effects:

Vital Hit: Double the damage rating dealt by the attack. This has no effect on the damage's severity, but the severity may still be staged up when compared to the vehicle's Shock threshold, as normal.

Damaged System: One of the vehicle's systems gets damaged and ceases to function. The GM should pick the system, which is damaged, or flip a card and use the table below (use the column which most closely matches the vehicle in question). If a particular result comes up that does not apply, simply redraw. Damaged systems cease to function—comms stop working, cargo is lost, thrusters stop allowing a vehicle to move about, life support stops working so life on the ship is on borrowed time, etc. The GM should rule on what exactly this means for the vehicle.

Card	Spaceship	Ground Vehicle	Aerial Vehicle
Ace – 2	Cargo	Cargo	Cargo
3 – 4	Power	Power	Power
5 – 6	Sensors	Sensors	Sensors
7 – 8	Comms	Comms	Comms
9 – 10	Thrusters	Wheels/Rail/Treads	Thrusters
Jack	Weapon	Weapon	Weapon
Queen	Crew Hit*	Crew Hit*	Crew Hit*
King	Life Support	Vehicle Body (Cover)	Vehicle Body (Cover)
Joker	Draw Twice	Draw Twice	Draw Twice

* Crew hits typically deal a light wound to all crew members.

Crew Positions

Too often vehicular combat in role-playing games boils down to a couple players taking the important actions while the others wait for the scene to end. This is a problem the vehicular combat system in *Shadows Over Sol* attempts to remedy by potentially giving all characters something interesting to do—a crew position—and a chance to contribute in some way.

Not all vehicles will have all crew positions available. The GM should use common sense when deciding which positions to allow on a given vehicle. For example, a motorbike is going to have a pilot (the driver) and maybe a second character acting as a gunner or maybe a marine (if a character is willing to leap from the motorbike onto an adjacent vehicle).

A single character may occupy up to two of these positions on any given round, but if occupying two positions, all actions performed by the character receive a -2 penalty. Positions can usually be swapped freely between rounds. Each of these positions and the role it's meant to perform in vehicular combat are described below.

Engineer

The engineer can route power between critical systems in order to gain a performance advantage.

- Make an Int/engineer-10 flip. On a success, the engineer can pick one position currently staffed and reroute excess power from that system to another position currently being staffed. The target crew member gives an unspent AP to the recipient crew member. On a success by 5+ Mag, the target may opt to give the recipient up to two unspent AP.
- By making a successful Int/engineer-10 flip, the engineer may intentionally damage one of the vehicle's systems in order to gain 1 AP, which she may give to any crew member. This represents overloading the system for short-term gain.

Gunner

It's the job of the gunner to fire upon other vehicles. This allows her to perform the following actions:

- In combat, she may operate one of the vehicle's weapons. This is typically a Dex/ordnance vs. Defense action
- If the vehicle's design allows, she may fire her own personal weapons—for example, firing out of the window of a groundcar. This is a Dex/guns vs. Defense action.

Jammer

It's the jammer's job to engage in electronic warfare with the other vehicles, jamming their sensors and comms and otherwise causing mechanical issues.

- A jammer can make an Int/comp-ops-10 action. On a success, she increases the target vehicle's Fixated (jamming) consequence a severity,

or by two severities on a success by Mag 5+. This consequence's penalty applies to all crew.
- Alternatively, a jammer may make an Int/comp-ops-10 action to reduce her vehicle's Fixated consequence a severity, or by two severities on a success with Mag 5+.

Marine

A marine's job is to board other vehicles in combat or to resist boarders from other vehicles.

- If the pilot has maneuvered close enough to another vehicle, a marine can make a boarding attempt. This is usually a Str/athletics-10 flip to make the crossing.
- A boarding attempt on either vehicle is often followed by personal combat between vehicular combat rounds.

Mechanic

It's the mechanic's job to repair the damage dealt to a vehicle and its critical systems.

- By making a Spd/mechanic-10 flip, a mechanic may remove the wound penalty imposed on a vehicle's crew from a single wound consequence.
- After a vehicle's system has been damaged, a mechanic can make a Per/mechanic-10 action to jury-rig a repair. This repair won't hold for the long run, but it will enable the vehicle's system to continue to function throughout the rest of combat. A single system damaged a second time in this way, however, is beyond repair.

Medic

It's the medic's job to treat injured crew members and administer drugs.

- In combat, a medic can make a Dex/medic-10 action to apply first aid to an injured crew member (see core rulebook).
- Alternatively, a medic may apply a drug, such as Stimulox (see core rulebook), to a willing crew member. This usually doesn't require a flip. Drugs with a 10-minute duration last until the same phase they were administered in the next round.

Officer

The officer's job is to coordinate the other characters on the vehicle as they perform their actions.

- She may make an Int/persuade-10 flip to try to coordinate her crew. This requires the ability to communicate clearly with the coordinated crew. On a success, crew members except the officer increase their Bolstered consequence by a severity. With 5+ Mag, they increase it by two severities. A crew member may only benefit from coordination by a single officer.
- When a member of the crew's action executes, an officer may choose to spend an AP to give a +2 bonus to that action as a reaction.

Pilot

It's the pilot's job to maneuver the vehicle and to help it avoid being hit in combat. The pilot may perform the following actions:

- As a reaction to being attacked, the pilot of a vehicle may take evasive actions to avoid the hit. She may only do this if she is aware of the incoming attack and the vehicle is capable of maneuvering out of the way. This works just like the dodge reaction—requiring an AP—but adds the pilot's Vehicles skill to Defense. Additionally, the pilot can use her Bolstered consequence to give a bonus to this equal to the consequence's severity.
- The pilot can take actions to move the vehicle further away or closer to other objects in combat. This is usually either an unopposed Dex/vehicles-10 flip or an opposed Dex/vehicles vs. Dex/vehicles flip.
- The pilot can make a Dex/vehicles-10 flip to regain control of a vehicle, reducing the Spin consequence a severity or by two severities on a success with Mag 5+.

Travel Times

The table below shows the time it takes to travel (in standard Earth days) between different bodies in the solar system. The numbers given below are a base travel time. To determine the actual travel time for a given vehicle, divide this time by the vehicle's Cruise rating. This is how long the average voyage will take on maximum thrust.

Naturally, the relative distances of planets change as they orbit around the Sun. The numbers given here represent travel at a median distance. In practice, travel times frequently vary by up to twice this amount or down to half this amount when the planets are coming into alignment.

Divide by Ship's Cruise Rating	Sol	Mercury	Venus	Earth	Mars	The Belt	Jupiter	Saturn	Uranus	Neptune	Pluto
Sol	—	94	172	240	360	804	1248	2280	4608	7224	9480
Mercury	94	—	78	146	266	710	1154	2186	4514	7130	9386
Venus	172	78	—	68	188	632	1076	2108	4436	7052	9308
Earth	240	146	68	—	120	564	1008	2040	4368	6984	9240
Mars	360	266	188	120	—	260	888	1920	4248	6864	9120
The Belt	804	710	632	564	260	—	628	1476	3804	6420	8676
Jupiter	1248	1154	1076	1008	888	628	—	1032	3360	5976	8232
Saturn	2280	2186	2108	2040	1920	1476	1032	—	2328	4944	7200
Uranus	4608	4514	4436	4368	4248	3804	3360	2328	—	2616	4872
Neptune	7224	7130	7052	6984	6864	6420	5976	4944	2616	—	2256
Pluto	9480	9386	9308	9240	9120	8676	8232	7200	4872	2256	—

Spaceship Design

Spaceships are more than just gear. In a spacefaring campaign they are essential. Spaceships have a lot of character and personality of their own. A group's choice of spacecraft can shape a campaign.

This section presents a system for players to design, upgrade and maintain their own spaceship. In it are a variety of options and components among which players may choose to buy and install.

Overview

An overview of the steps in the spaceship design system is listed below.

- **Choose Hull:** The first step of vehicle design is choosing its hull. This will determine the general class of the vehicle—fighter, freighter, cruiser, etc. It will also give a baseline power requirement and an amount of hull space in which to install components.
- **Choose Power:** The second step is to choose the vehicle's source of power. This will determine the amount of available power, which is used to power the ship's engines and other components.
- **Choose Components:** The next step is to choose the components installed in the vehicle. This includes anything from a medical bay to a cargo hold, from a sensor array to stasis pods. Most components will have both a power and a space requirement.

- **Determine Stats:** In the final step, the ship's final power and space totals are calculated. This will alter the base stats provided by the ship's hull.

Spaceship Design in Play

When the purchase of a custom spacecraft is made during play there are a number of factors to consider, including availability, delivery time, total cost, upkeep, repair and future upgrades. These considerations are addressed in the following sections.

Buying a Custom Spaceship

By in large, spaceships take a lot of resources, time and effort to produce. This means that if a custom spaceship is ordered there will typically be a wait time before the spaceship is complete. Similarly, there are only a handful of facilities capable of fully customized spaceship construction in the Sol system, and custom spaceships will need to be retrieved from these facilities.

Thankfully these two facts are complimentary! A crew in the Belt may have to travel to a ship construction platform orbiting Earth to pick up their new ship. This ship may take months to construct.

But then again the trip back to Earth takes months as well.

Those few characters with the resources to construct their own spaceship from scratch will not only have the costs of the construction facilities, but the cost of the spaceship itself. Building one's own spaceship should prompt the use of the Engineering subsystem found in the *Shadows Over Sol* core rulebook.

Determining Total Cost

To determine the total cost of the ship one adds together the Cost rating of all the component parts, including the hull. Doing this uses the usual rules for combining Cost ratings (described under "Wealth" in the *Shadows Over Sol* core rulebook). This means that Cost ratings are combined two at a time, from lowest to highest, with two Cost ratings of equal value combining to a Cost rating of one higher value.

For example, if a ship's hull is a freighter (Cost 13), with a small thorium reactor (Cost 13) and 20 spaces of cargo hold (Cost 7). This ship's cost will total to Cost 14, because Cost 7 and Cost 13 combine to still Cost 13, then this combined Cost 13 adds with the final one for a total of Cost 14—remember costs are exponential: two items of the same cost add together to have a total cost one higher.

Upgrading a Spaceship

It's cheaper to install a new component when a spaceship has been taken apart or under assembly. Adding a new component after the fact incurs expenses for labor, taking the appropriate parts of the ship apart to fit in the new component, wire to the central power, calibrate it with the ship's computer, etc.

Adding a new component after a ship's initial construction increases the Cost rating of that component by one. Player characters with the right skills may be able to do this themselves, keeping the Cost rating down to its usual value, but this also requires possessing the right equipment and likely requires that the ship spend extensive time docked while the upgrades are taking place.

Repairing a Spaceship

A damaged spaceship component has a cost to repair it one Cost rating less than its purchase price. For example, this means that a component with Cost 7 is Cost 6 to repair. This price covers the necessary replacement parts as well as the necessary labor. Those wishing to perform the repair themselves may get away paying a Cost rating two less than the purchase price, but repairing a spaceship this way will require the appropriate tools, as well as having the ability to dock the craft during the repairs. Whatever method is used to repair the ship, repairs likely take upwards of a week.

Spaceship Upkeep

Spaceships require periodic maintenance and upkeep. At the very least they require refills of oxygen, water and, in rare instances, thorium fuel pellets. At the same time, the Lifestyle system exists so that every trivial charge—such as maintenance charges—don't have to be tracked.

Any character able to maintain Lifestyle 8 will be able to afford the basic upkeep of a spaceship as part of her Lifestyle. Typically, this is the spaceship's captain or wealthy benefactor. A character with Lifestyle 9 or 10 will be able to afford to maintain a spaceship in luxury.

If no character has Lifestyle 8, several characters may still chip in together and maintain a spaceship as part of their collected lifestyles. This requires two characters at Lifestyle 7, four characters at Lifestyle 6, etc.

Should the characters still not be able to afford their spaceship's upkeep, they would be advised to work out a deal with some patron who might foot the bill for them. Otherwise, one day they may find themselves docked without enough oxygen to make it to the next port.

Spaceship Hulls

Hulls generally correlate to a class of ships, such as transport, battleship or freighter. Picking out a hull is the most important part of spaceship design. This choice will set the baseline stats and abilities of the spaceship before customization.

All hulls will provide some number of points of Space. In later steps, the power source and components of the spaceship will be chosen. These will each have space requirements, reducing the space available in the hull. Once all points of Space have been spent, there simply isn't room in the spaceship for anything else to be installed.

Hull List

The different available hulls are listed below.

Battleship

- **Cost Rating:** 19
- **Handling** -1, **Defense** 7/14, **DR** 0, **Shock** 18, **Structure** 13, **Cruise** 8
- **Properties:** Mil, Vehicle
- **Space Provided:** 55

The largest class of capital warship in common use, battleships typically sport heavy armor, as well as a single or pair of large caliber guns on their main weapons battery. All this is typically protected by a contingent of attached fighters and numerous secondary weapons batteries.

Destroyer

- **Cost Rating:** 17
- **Handling** 0, **Defense** 7/15, **DR** 0, **Shock** 14, **Structure** 9, **Cruise** 8
- **Properties:** Mil, Vehicle
- **Space Provided:** 35

Destroyers are fast, long endurance warships, occupying a midpoint in size between the larger battleships and the smaller fighters. Destroyers often escort larger fleets, and their speed may allow them to flank enemy fleets in battle.

Fighter

- **Cost Rating:** 12
- **Handling** +2, **Defense** 7/15, **DR** 0, **Shock** 10, **Structure** 5, **Cruise** 3
- **Properties:** Mil, Vehicle
- **Space Provided:** 15

Fighters are essentially small but mobile missile platforms, typically launched to protect a station or larger capital warship. Most fighters hold only a single crew member or two, with the rest of the space dedicated to weapons and maneuverability.

Estimating Space

The number of points of Space a spaceship has to work with can be estimated using the ship's Structure rating. Simply multiply Structure by five and subtract ten. For example, if the ship has Structure 10, it will have around Space 40, because $(10 \times 5) - 10 = 40$.

Designing Non-Spaceship Vehicles

With some handwaving this system can also be used to construct non-space-ship vehicles. A groundcar or a tank is essentially basic hull in which different components can be installed. Space in the hull will be limited, and the power sources will be different from solar or a thorium reactor, but the basic construction idea is the same.

Unfortunately, the word count in this book is limited. As **Shadows Over Sol** is a game primarily focused on space, we have chosen to focus our vehicle design rules on spaceships. A variety of pre-constructed non-spaceship vehicles are provided in the catalog later in this book. Customizing these vehicles is left as an exercise for the GM.

Freighter

- **Cost Rating:** 13
- **Handling** -2, **Defense** 6/13, **DR** 0, **Shock** 12, **Structure** 7, **Cruise** 5
- **Properties:** Vehicle
- **Space Provided:** 25

Freighters are the workhorse of civilian trade and shipping across the Sol system. Often freighters are little more than large cargo containers with an engine and minimal crew facilities attached. Other freighters are configured as passenger vehicles, with extensive arrays of stasis pods other medical components.

Harvester

- **Cost Rating:** 13
- **Handling** -1, **Defense** 7/14, **DR** 3, **Shock** 11, **Structure** 6, **Cruise** 3
- **Properties:** Vehicle
- **Space Provided:** 20

Harvesters are rugged ships designed for heavy use in mining or other resource extraction. Typically designed with the capability to land on light gravity bodies, harvesters are also often equipped with harvester arms or industrial processing equipment.

Shuttle

- **Cost Rating:** 10
- **Handling** 0, **Defense** 7/15, **DR** 0, **Shock** 9, **Structure** 4, **Cruise** 2
- **Properties:** Vehicle
- **Space Provided:** 10

Shuttles are small spacecrafts designed to ferry people or goods between ships, or between a space station and a spaceship. Shuttles typically run on battery power, and as such need their parent spacecraft to recharge between uses.

Yacht

- **Cost Rating:** 14
- **Handling** 0, **Defense** 7/15, **DR** 0, **Shock** 11, **Structure** 6, **Cruise** 5
- **Properties:** Vehicle
- **Space Provided:** 20

Yachts are recreational luxury ships, used primary by the very rich. Most yachts will have some of the best civilian facilities that money can buy, coupled with designer interiors and roomy accommodations.

Spaceship Power

Without a source of power, a spaceship is dead in space. Its systems cannot operate, and its engines cannot maneuver the ship. All power sources require some amount of Space (provided by the hull) and produce some amount of Power. This is measured in points of Power. Later, other components installed in the vehicle will have power requirements listed. This consumes some of the available power. Once all available power is consumed, no further components may be installed. Some power sources also have modifiers to other ship stats, such as Handling or Cruise.

Power List

Available sources of power are listed below.

Battery Array

- **Cost Rating:** 8 + the amount of Space required
- **Power Generation:** 1 + 2 times the amount of Space required
- **Space Requirement:** 1 per day's battery life
- **Handling Modifier:** -2
- **Cruise Modifier:** -1

Ships powered by a battery array do not generate their own power, but instead simply store power generated by a parent ship, station or colony. This stored energy is used to power the ship's ion drives while the vehicle operates. Between periods of operation, the ship must recharge. Obviously, this limits this power source to short range or short duration vehicles, such as shuttles and fighters. Typical battery life is one day of full operation per Space of battery array.

Solar Array

- **Cost Rating:** 10
- **Power Generation:** 5 (between Sol and Mercury), 4 (between Mercury and Venus), 3 (between Venus and Earth), 2 (between Earth and Mars), 1 (between Mars and Belt)
- **Space Requirement:** 1
- **Handling Modifier:** -2
- **Cruise Modifier:** -1

In the inner solar system, Sol emits enough light to power entire spacecrafts on solar energy alone. This light drops off rapidly as one approaches the outer solar system, making solar powered vessels an inner system phenomenon. This is reflected mechanically in the Power rating dropping off as one moves further away from Sol. As the power rating drops, a ship must power down systems, which it can no longer support.

Ships with this power source typically unfurl large flexible arrays when in transit, to maximize the surface capable of absorbing solar energy. This energy then powers ion drives, which push the ship across space. Because ships powered by a solar array must rely on iron drives, they are not typically as speedy as ships with their own reactors.

Thorium Reactor

- **Cost Rating:** 16 (large), 13 (small)
- **Power Generation:** 20 (large), 10 (small)
- **Space Requirement:** 8 (large), 5 (small)

Thorium fission reactors are the most common power source in the system. They consist of a stack powered by fuel pellets of thorium, surrounded by an elaborate system of heat dispersion. These rectors also directly power fission fragment rockets, which act as a means of spaceship propulsion.

Thorium reactors can differ in size and capacity to power different classes of ships. The large thorium reactor is generally intended to power capital ships or small stations, whereas the small thorium reactor is a more compact model intended to power freighters or smaller vessels. A large reactor holds enough fuel to last for about 12 years of operation, and a small reactor holds 6 years of fuel. New fuel can be purchased for Cost 14 (large) or Cost 11 (small).

Components

Spaceships with only a hull and power source are little more than empty shells floating around in space. To get tasks accomplished a spaceship needs components installed—control rooms, medical bays, sensor arrays, stasis pods and the like.

All of these components will have a Space requirement, and most will have a Power requirement as well. These subtract from the available Space and Power on the ship. Some components also have modifiers to other ship stats, such as Handling or Cruise.

Component List

Available components are listed below.

Armor

- **Cost Rating:** 9 + half the amount of Space required
- **Space Requirement:** 1 per DR

Armor generally consists of a full set of plating attached to the outer hull of a vessel. This plating may be augmented with systems designed to absorb kinetic energy, located between the inner and outer hulls.

Attach Point

- **Cost Rating:** 8
- **Power Requirement:** 1
- **Space Requirement:** 2

An attach point is a spot on the hull of a larger ship designed for docking with smaller ships such as shuttles or fighters. It consists of a structural strengthening of the hull, padding, an airlock and power facilities designed to charge the batteries on an attached craft. The smaller ship typically does not need an attach point. Only one such craft can dock at an attach point at a time. Repairing the exterior of a smaller vessel while at an attach point is treated as improvised equipment (-2). For better equipment use a hanger bay (see page 29).

Auxiliary Thrusters

- **Cost Rating:** 5 + the amount of Space required
- **Power Requirement:** See Handling modifier
- **Space Requirement:** See description
- **Handling Modifier:** +1 per 10% Space and 1 Power

This component consists of a full set of auxiliary thrusters, which can aid in maneuvering the ship through difficult maneuvers or to avoid attacks. These thrusters operate through the release of compressed gas, fission-fragment rocketry or ion pulse.

The amount of Space required for auxiliary thrusters increases with the size of the ship—essentially larger ships require more thrusters to maneuver. Every +1 bonus from thrusters requires space equal to 10% of the Space provided by the hull (min. 1). This bonus applies to the Handling rating of the ship (and thus its Defense). The bonus granted from auxiliary thrusters cannot exceed +4.

Battle Pods

- **Cost Rating:** 11 + the amount of Space required
- **Power Requirement:** 1
- **Space Requirement:** 1 per 5 people

Battle pods function as stasis pods (see page 32), but also serve in a life support capacity when crew are not in stasis. This is common in military ships, where the crew can spend their time awake in their battle pods during a fight, allowing the rest of the ship to be voided of oxygen—a prevention against fires. Battle pods have internal control panels allowing the crew to interface with the ship's computers.

Cargo Hold

- **Cost Rating:** 3 + 1 for every 5 Spaces required
- **Space Requirement:** 1 per 1,000 kg (about 200 encumbrance)

A cargo hold is an open space designed to store cargo during shipping. It typically includes a variety of straps, magnetic clamps or other mechanisms to secure cargo so that it doesn't shift during acceleration, declaration or maneuvers.

Comms Array

- **Cost Rating:** 9
- **Power Requirement:** 2
- **Space Requirement:** 1
- **Laser Comm:** +3 (♠15L / ♥10L / ♦5L / ♣2L), Range 10M (Improvised)

A communications array provides a suite of both short and long distance communications. This includes radio comms capable of broadcasting across the system, as well as a powerful laser comm for point-to-point communication. In a pinch, this laser comm can be overloaded to function as an improvised weapon—just point it at a spot on the target's hull and hold it there long enough to eventually cut through! As an improvised weapon, a laser comm as the attack listed above.

Without a comms array a ship only has the capabilities to send and receive short-range radio communication. This is common for short distance ships, such as shuttles or fighters.

Computer Hook

- **Cost Rating:** 6
- **Power Requirement:** 1
- **Space Requirement:** 1

Normally a ship can interface with a microcomputer or hand terminal—even workstations, mainframe or supercomputers wirelessly. This sort of interface doesn't require a computer hook, but neither does it grant full access to or control to the systems of the ship. Almost all ships are hardwired not allow control of the ship over a wireless connection. This is a simple security measure against hackers—after all, one wouldn't want an enemy hacker to simply jettison the life support.

A computer hook is a specific set of wired connections and power where a computer can be attached and used to control the ship with full access. This can be used to override or supplement the embedded main computer that comes with the hull.

Control Room

- **Cost Rating:** 8
- **Power Requirement:** 1
- **Space Requirement:** 2

Also known as the bridge, a control room is a space designed to aid in the control of a vehicle. It makes a variety of outputs for various sensors easily assessable, as well as providing a place to display diagnostics or to communicate with the rest of the ship. Ships don't have to have a control room—instead simply having a cockpit or similar small space—but any attempts to act as officer in vehicular combat are at best treated as improvised (-2) without a proper control room from which to coordinate the battle.

Engine Room

- **Cost Rating:** 7
- **Power Requirement:** 1
- **Space Requirement:** 1

A spaceship's engine doesn't need an engine room to function, but an engine room provides a wide variety of diagnostic tools for monitoring the engine, as well as allowing ample space to access the engine for repairs, modifications and maintenance. Without an engine room, any attempts to access the engine during transit are considered to be using improvised (-2) tools at best.

Gauss Cannon

- **Cost Rating:** 16
- **Power Requirement:** 5
- **Space Requirement:** 4
- **Gauss Cannon:** +5 (♠30M / ♥20M / ♦10M / ♣5M), Pierce 20, Range 50M, Reload 5, Shots 2

A gauss cannon is a huge magnetically-accelerated ballistic cannon typically designed to be attached to a powerful warship. This is one of the strongest conventional ship-to-ship weapons in use today. A gauss cannon provides the ship with the attack listed above. A gauss cannon comes with 20 available shots. New shots can be purchased at Cost 8 per shot.

Listed Ship Attacks

The attacks for vehicles list the name of the weapon followed by a "to hit" value, the damage values in parentheses and finally any properties of the attack. All of these are fixed for the attack, except for the "to hit" value. This value represents a "typical" Dex/ordnance value for a gunner on the ship. Statted characters firing a ship weapon should substitute their own attack value in place of the one listed with the weapon.

Habitat

- **Cost Rating:** 6 + the amount of Space required
- **Power Requirement:** 1
- **Space Requirement:** 1 for every 5 people

A habitat contains everything up to five people need to live and work for an extended period of time out of stasis. This includes bunks, personal storage lockers, kitchen space, privies and limited social space. Every Space allocated to habitat provides enough facilities for five people.

Hanger Bay

- **Cost Rating:** 11
- **Power Requirement:** 1
- **Space Requirement:** 13

A hanger bay is an open space in which a smaller vessel—usually a transport or a fighter—can internally dock within a larger ship. In this way a hanger bay works a lot like an attach point, except the smaller ship is fully enclosed by the larger one. This allows the repair and maintenance of the smaller ship without having to spacewalk (no improvised penalty), and protects the smaller ship within the larger ship's armor.

Harvester Arm

- **Cost Rating:** 8
- **Power Requirement:** 1
- **Space Requirement:** 2
- **Harvester Arm:** +3 (♠6M / ♥4M / ♦2M / ♣1M) (Improvised)

A harvester arm is a large arm, which extends from the ship and allows it to drill through or manipulate objects around it. These arms are common on mining vessels, where the arm will either break up rock and ice for mining, or clamp onto larger objects for transport. A harvester arm can be used as an improvised ship-to-ship weapon in combat, but only if its ship is first docked with the target. As an improvised weapon, it has the attack listed above.

Heat Sink

- **Cost Rating:** 8 + the amount of Space required
- **Space Requirement:** See Cruise modifier
- **Cruise Modifier:** +1 per 1 Space

Heat sinks consist of large arrays of conductive material designed to disperse excess heat from a reactor outside of a ship or its inhabited areas. This allows the ship's engines to burn for longer, increasing the windows of acceleration, and thus the ship's Cruise rating.

Every Space allocated to heat sinks gives a +1 bonus. This bonus applies to the Cruise rating of the ship. The bonus granted from auxiliary thrusters cannot exceed +4.

Med Bay

- **Cost Rating:** 10
- **Power Requirement:** 1
- **Space Requirement:** 2

A medical bay contains a variety of diagnosis tools, surgical instruments, medical tables, cold storage lockers and other assorted equipment useful in medicine. It counts as sufficient tools for all manner of surgery, as well as superior quality (+2) equipment for first aid.

Mining Bay

- **Cost Rating:** 9
- **Power Requirement:** 2
- **Space Requirement:** 5

A mining bay is a space designed for mining work, ore extraction and other forms of mining-related industrial processing. It contains vats for various chemicals, heating vats, large electrical outputs, cranes, conveyor belts and other tools. It counts as sufficient equipment for mining, refinement and processing. The large industrial machinery could also serve as a variety of improvised weapons for a personal combat taking place in the bay.

Missile Turret

- **Cost Rating:** 13 + 1 per turret
- **Power Requirement:** 1
- **Space Requirement:** 2 per turret
- **Missiles:** +5 (♠24M / ♥16M / ♦8M / ♣4M), Range 100M

A missile turret is a hard point for launching missiles, complete with machinery to automatically reload missile tubes. Usually this turret can swivel in a variety of directions, allowing for dynamic targeting as enemy ships move about the battle. A missile turret can typically be crewed by one gunner, and grants the attack listed above.

A turret comes with a full complement of 20 missiles. New missiles can be purchased at Cost 8 per missile.

Science Bay

- **Cost Rating:** 10
- **Power Requirement:** 1
- **Space Requirement:** 2

This is a lab and workshop area geared towards one realm of scientific research and discovery. When a scientific bay is installed its focus must be chosen from among biological sciences, mechanical & electronic engineering or physical sciences. It counts as superior quality equipment (+2) for tasks related to its field.

Sensor Array

- **Cost Rating:** 9
- **Power Requirement:** 2
- **Space Requirement:** 1

A sensor array provides a versatile suite of sensors for detecting objects near the ship, or sometimes even across the system. This includes both passive sensors—such as receivers for visible light, infrared, ultraviolet, radio and other forms of radiation—as well as active sensors—such as ladar targeting, or radio-based detection methods. This counts as superior (+2) equipment to detect ships or other objects in close vicinity. A ship without a sensor array may still detect the space around them, must rely solely on passive detection methods.

Smuggler's Hold

- **Cost Rating:** 5
- **Space Requirement:** 2

A smuggler's hold is essentially a cargo hold that's designed to conceal rather than for space efficiency. Often smuggler's holds are hidden in other parts of the ship, designed to appear as engine panels, habitat, sensor machinery, etc. Because of their concealed nature, individual smuggler's holds are limited to holding about 1,000 kg (about 200 encumbrance) in the hold. Larger holds would be obvious.

Stasis Pods

- **Cost Rating:** 9 + the amount of Space required
- **Power Requirement:** 1
- **Space Requirement:** 1 per 5 people

Stasis pods are important for any trip lasting more than a month or so. In stasis, passengers have significantly lower life support requirements, and spending the voyage in stasis prevents the crew from going crazy due to the isolation and cramped quarters. A stasis pod array typically consists of up to five stasis pods, and includes all of the supplemental equipment to ease the passengers into and out of stasis. Ships with large crew or ones that carry passengers typically have multiple Spaces of arrays.

Streamlining

- **Cost Rating:** 7 + the amount of Space required
- **Space Requirement:** See description

Streamlining is a modification to the shape and composition hull such that it can be used to enter atmosphere. This allows a ship to actually land on a body with atmosphere without falling apart or burning up. Regardless, ships without their own reactor are likely unable to leave a gravity well with significant gravity (Earth or Venus) under their own power.

Since streamlining changes the shape—and thus carrying capacity—of the ship, the amount of space it takes scales with the ship's size. Streamlining has a Space requirement equal to 20% of the total Space provided by the ship's hull (minimum 1).

Final Stats

The final step of spaceship design is finalizing the stats of the spacecraft. To do this take the base stats provided by the hull and then make any modifications called for by the installed components. Additionally, one should double check to ensure that the Space and Power requirements of the ship are met.

Spaceship Checklist

For normal operation, a spaceship needs a variety of components, including some which might technically be marked as optional, but which a spaceship isn't likely to be of much use without. Below is a checklist of components most spaceships are likely to need:

- **Hull:** Providing enough space to meet requirements.
- **Power:** Providing enough power to meet requirements.
- **Control Room:** To control the ship.
- **Comms Array:** To communicate with other ships and stations.
- **Habitat:** To keep crew alive outside of stasis.
- **Sensor Array:** To sense what's around the vehicle.
- **Stasis Pod Array:** To keep crew alive during transport.

Example Spaceship: The Kingfisher

William has come across a large windfall and wants to custom order a new spaceship for his team, which consists of six people.

Hull: He looks at the spaceship design rules, beginning with hulls. Since he does not want to draw the ire of corp militaries, he selects the freighter to be the basis of his new ship. This provides a well-rounded set of stats, which he can build upon. So far his ship has 25 space and the following stats:

- **Handling** -2, **Defense** 6/13, **DR** 0, **Shock** 12, **Structure** 7, **Cruise** 5

Power: Next, he looks at power sources. He immediately disregards the battery array and solar array, as he wants his ship to be able to operate alone and to be able to voyage into the outer solar system. Choosing between the small or large thorium reactors, he decides to go with the small, as it is much cheaper. His ship now has 20 space left, 10 power and the same stats as before.

Components: William thinks about what he will need on the ship. Since he has a team of six, he purchases habitats for 10 people. This will support his crew and a few passengers, if necessary. He also purchases enough stasis pods for 10 people. Together these components will consume 2 power and 4 space. The ship is down to 8 power and 16 space left.

The basics of life support handled, William thinks about how the ship with interact with those around it. He buys a comms array, sensors array, attach point and armor 3, since you never know when you'll need that protection. All together, this will consume 5 power and 7 space. The ship now has 3 power and 9 space remaining. It also now has the following stats:

- **Handling** -2, **Defense** 6/13, **DR** 3, **Shock** 15, **Structure** 7, **Cruise** 5
- **Laser Comm:** +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

William thinks hard, considering if he needs anything else. Finally, he opts to purchase a smuggler's hold and a Unitech CS-1r Ship's Shuttle. The shuttle is a smaller spacecraft in its own right (found in the Catalogue chapter of this book). The smuggler's hold will take two points of space, and will allow William's team to traffic in questionable goods, if needed. The remaining 7 space William fills with a cargo bay. William names his ship the Kingfisher. It's final stats are as follows:

Cost Rating: 14

Handling -2, **Defense** 6/13, **DR** 3, **Shock** 15, **Structure** 7, **Cruise** 5

Components: Armor 3, Attach Point (Unitech CS-1r Ship's Shuttle currently attached), Cargo Bay 7, Comms Array, Freighter (Hull), Habitat (10 people), Sensor Array, Smuggler's Hold, Stasis Pods (10 pods), Thorium Reactor (Small, Power)

Properties: Vehicle

Laser Comm: +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

Catalogue

The following chapter expands upon the gear listed in the *Shadows Over Sol* core rulebook. This more than doubles the variety of available equipment. As all of the gear here is considered supplemental, players should get the permission of their game master before purchase.

Additional Gear Properties

The following additional item properties are used by gear listed in this book and supplement those found in the *Shadows Over Sol* core rulebook.

■ **Defensive X:** When this equipment is being used it provides the wielder with the Cover consequence at the indicated severity.

■ **Reach:** This weapon can be used to attack at a longer distance than most other melee weapons. This makes it easier to keep one's distance and avoid attacks from melee weapons without reach. When wielding this weapon any dodge reaction against a melee attack provides an additional +2 bonus to Defense, unless the weapon used in the attack also has the Reach property.

■ **Shallow:** Attacks made with this weapon have a difficult time penetrating armor. Double the target's DR for the purposes of resolving damage from this weapon.

■ **Spread:** Attacks fired by this weapon spread outward. This makes the attack harder to avoid, but also makes it less precise. Attacks made with this weapon gain a +2 bonus if made within the weapon's listed Range. Additionally, any attack made with this weapon also targets all characters in melee with the attack's primary target.

■ **Vehicle:** This piece of equipment is a vehicle, and typically cannot be carried. Vehicles have their ranges listed in millions of meters, and their ratings are given in vehicular combat rounds and other vehicular scales (see page 11).

Buying Inferior Goods

With the GM's permission, a player may purchase a damaged, cheap or inferior version of a particular piece of equipment. This reduces the piece of equipment's Cost rating by one. On the other hand, anytime a joker comes up when using the inferior gear, it breaks in the worst way possible, rending it useless and probably causing further complication for the character.

If no flip is normally made to use the gear, the player should flip a card and check for a joker. If it is a "limited use" piece of equipment—for example, doses of a drug or a clip of ammunition—a similar malfunction happens anytime a club is played when using the equipment, in addition to the joker.

Arms

Humanity has invented countless means to end the lives of those they disagree with. The weapons presented here expand upon the available options.

Archaic Weapons

The following weapons have long ago fallen out of favor as instruments of violence. Nevertheless, they still exist and may occasionally be encountered through collectors, historical enthusiasts or the eccentric.

Bow

- **Cost Rating:** 3
- **Damage:** ♠Str×3M / ♥Str×2M / ♦StrM / ♣Str×½M
- **Properties:** Hands 2; Range 10; Shots 1

Dating back to prehistoric times humans have used bows to hunt their prey. Now you too can join this time-honored tradition. Bows consist of a taunt string attached to a flexible arc—usually wood or plastic.

Club

- **Cost Rating:** 2
- **Damage:** ♠Str×3+9L / ♥Str×2+6L / ♦Str+3L / ♣½Str+1L
- **Properties:** Big 2

A popular choice for the urban primitive! These clubs consist of a large, blunt piece of wood—simple and effective at smashing skulls. You try not to complicate your life, so why complicate your choice of weapons?

Crossbow

- **Cost Rating:** 4
- **Damage:** ♠Str×3+6M / ♥Str×2+4M / ♦Str+2M / ♣½Str+1M
- **Properties:** Hands 2; Range 10; Reload 6; Shots 2

Any fool can get splattered with a gun. Send your enemies a message when you splatter them in style! Crossbows are mechanical bows, which fire special bolts and deadly velocities. Cocking winch included.

Ballistic Weapons In Space

Fires cannot burn without oxygen. This includes the fire necessary to ignite the gunpowder in a bullet. Modern ammunition, however, typically includes its own oxidizer. This allows the gunpowder to ignite faster, sending the bullet outward with more force. Because of this, modern firearms will fire regardless of atmosphere, even in the vacuum of space. Archaic firearms do not have this benefit.

Temperature, however, is a concern. Fires will not ignite unless there is enough heat. If a firearm's ammunition gets extremely cold, its normal triggering mechanism may not generate enough heat to allow it to ignite. For modern firearms, this begins to be a concern around -70°C, and only gets worse as the temperature gets colder.

Greatsword

- **Cost Rating:** 5
- **Damage:** ♠Str×3+6M / ♥Str×2+4M / ♦Str+2M / ♣½Str+1M
- **Properties:** Big 3; Hands 2; Reach

Size matters. Don't be the one stuck with the shorter sword. Greatswords are sturdy, two-handed blades of up to two meters in length. They benefit from modern metallurgy to achieve the right balance of maneuverability and heft.

Mace

- **Cost Rating:** 4
- **Damage:** ♠Str×3+9L / ♥Str×2+6L / ♦Str+3L / ♣½Str+1L
- **Properties:** —

Make a statement with a mace! Maces are heavy metal weights on the end of a shaft. The weighted end is swung so that the impact can render grievous bone-crunching harm.

Musket

- **Cost Rating:** 4
- **Damage:** ♠12M/♥8M/♦4M/♣2M
- **Properties:** Hands 2; Range 5; Reload 6; Shallow; Shots 1

A musket is the perfect accessory for the true retro look! An early ancestor of the rifle, a musket is a muzzle-loaded firearm with a long barrel. Unlike a rifle, it lacks rifling in the barrel.

Polearm

- **Cost Rating:** 5
- **Damage:** ♠Str×3+3M/♥Str×2+2M/♦Str+1M/♣½StrM
- **Properties:** Big 3; Hands 2; Reach

Keep your enemies back with one of the most popular weapons in history! Myriad polearms exist with subtle variations. They range from simple spears, to halberds, from lances to guisarmes.

Revolver

- **Cost Rating:** 4
- **Damage:** ♠9M/♥6M/♦3M/♣1M
- **Properties:** Range 10; Reload 3; Shots 6

Do you know what's cool? Revolvers are cool! A revolver is an archaic multi-shot pistol. Several shots can be loaded into multiple chambers. These chambers revolve when the weapon is fired, loading the next available shot.

Shotgun

- **Cost Rating:** 5
- **Damage:** ♠15M/♥10M/♦5M/♣2M
- **Properties:** Hands 2; Range 10; Shallow; Shots 2; Spread

Not taken seriously? You'll be taken seriously when you're wielding a shotgun! A shotgun is an older-style firearm with a long barrel. It fires a cartridge of small pellets of metal, which spread out as they continue through the air. This increases the ability to hit.
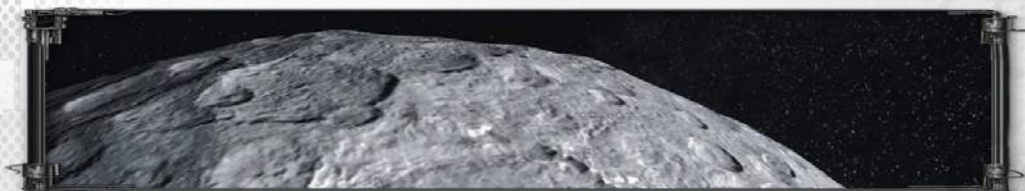
Staff

- **Cost Rating:** 2
- **Damage:** ♠Str×3+6L / ♥Str×2+4L / ♦Str+2L / ♣½Str+1L
- **Properties:** Big 2; Reach

Simple and elegant, a staff is a long shaft of hard wood, usually held at the center and swung outward. Plastic, ceramic and metal staves are also available for purchase. Available in a variety of colors!

Sword

- **Cost Rating:** 4
- **Damage:** ♠Str×3+3M / ♥Str×2+2M / ♦Str+1M / ♣½StrM
- **Properties:** —

At last, you can say you live by the sword! At their most basics, swords are long knives swung or thrust to cut others. Swords come in a variety of lengths and styles, from the Roman-style gladius to the curved scimitar, from the shortsword to the longsword.

Whip

- **Cost Rating:** 2
- **Damage:** ♠Str×3L / ♥Str×2L / ♦StrL / ♣½StrL
- **Properties:** Reach

Whip it good! A whip is long coiling, rope-like weapon swung through the air to lash out in attack. If swung appropriately, whips can render a loud cracking noise—perfect for getting attention or looking good.

Nonlethal Weapons

Sometimes killing one's opponents isn't optimal. These situations call for nonlethal weapons, of which a variety exists.

Microdyne 3a EMP Cannon

- **Cost Rating:** 6
- **Properties:** Hands 2; Mil; Range 10; Shots 1; Spread
- **Critical Effect:** Double the number of rounds the device is shut down. This effect must be chosen if a critical hit is scored with this weapon.

Your enemies are only as dangerous as their equipment. Shut it all off with this Microdyne 3a EMP Cannon! This rifle-sized weapon ends in a splayed barrel. There is also a bulky chamber near the handle. This chamber produces and directs an electro-magnetic pulse out of the end of the barrel.

The pulse disables any electronics that aren't specifically hardened against EMP. This includes lasers, shocksticks, monowhips, computers, mechanical implants, drones and more. Older electronics may be unable to recover from this pulse—being fried for good, unless repaired. Modern electronics are able to recover from an EMP pulse. For every piece of equipment affected, the wielder should draw a card when the equipment is next used. On any result but a joker the electronics have been shut down. It will remain shut down for the value of the card in rounds—counting from the round the device was last affected by the EMP cannon.

This weapon runs on specially tailored batt-packs.

Jenseitech "Punch" Shock Patch

- **Cost Rating:** 3
- **Properties:** Neg

Be the picture of stealthy cool: use a Jenseitech "Punch" Shock Patch. This patch can disable a target if it is slapped onto the target's bare skin. Naturally, this requires both that bare skin is exposed, and that the target is human—or at least similar biologically. Applying the patch is a Dex/melee vs. Defense flip with a -2 penalty for having to target the bare patch of skin. If applied, the target must succeed on an End-16 flip; otherwise they gain the Stun (critical) consequence. An individual patch may only be used once.

USD-9100 Smoke Grenade

- **Cost Rating:** 3
- **Properties:** Area 5; Thrown

Smoke! Smoke! Smoke! Once discharged this grenade quickly fills the area with smoke. This grants Concealment (severe) to all attacks going into and out of the primary blast radius, and Concealment (light) to the secondary blast radius. This smoke hinders lasers, granting DR 6 against laser attacks in the primary blast radius and DR 2 in the secondary blast radius. To those without a sealed suit, those in the primary or secondary blast radius suffer the effects of smoke (see the ***Shadows Over Sol*** core rulebook, Maladies section).

When this weapon is used the attacker should draw a card. The smoke will disperse in a number of rounds equal to the value of the card. On a joker, the smoke doesn't deploy effectively.

Heavy Weapons

Where small arms fail heavy arms may succeed, either way they're likely to leave collateral damage. Below one can find a number of heavy weapons.

USD-9600 Fire Grenade

- **Cost Rating:** 4
- **Damage:** ♠18M/♥12M/♦6M/♣3M
- **Properties:** Area 5; Burn; Mil; Thrown

The USD-9600 Fire Grenade is the best of its class, balancing portability with lethal resiliency. Just give one a throw, and unleash a firestorm of death, which will leave your enemies burning. Also comes with a convenient timer mode!

Xenocom "Easter Egg" Grenade Launcher

- **Cost Rating:** 9
- **Properties:** Big 2; Hands 2; Mil; Range 20; Shots 10

Why chuck grenades when you can launch them? This Xenocom "Easter Egg" Grenade launcher is an over-shoulder tube that holds 10 grenades of any variety, and which can launch them great distances. Don't waste time drawing grenades individually—automate it with a grenade launcher!
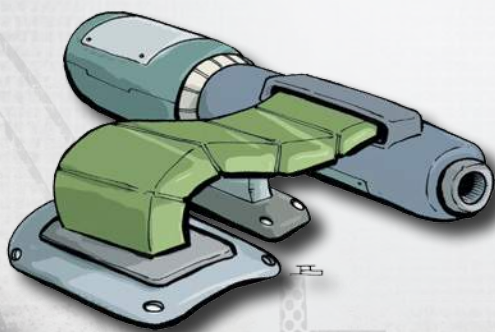
Xenocom "Hellfire" Flamethrower

- **Cost Rating:** 11
- **Damage:** ♠18M/♥12M/♦6M/♣3M
- **Properties:** Big 3; Hands 2; Mil; Range 5; Shots 10; Spread

Burn, baby, burn! Light up the night with a Xenocom "Hellfire" Flamethrower. This sleek flamethrower comes with a fuel backpack, hose, nozzle and igniter. It sends out a jet of flaming liquid in a line up to 10 meters long. Particularly flammable objects automatically ignite once hit by the jet. People hit this way should make a flip against catching fire (see the ***Shadows Over Sol*** core rulebook, Hazards section). Flamethrowers use special pyrotanks for ammunition (see next page).

Xenocom "Overkill" TAMP

- **Cost Rating:** 12
- **DR:** ♠24M/♥16M/♦8M/♣4M
- **Properties:** Area 5; Big 3; Hands 2; Mil; Range 20; Shots 1

When you wield the Xenocom "Overkill" TAMP, enemies know that you mean business! Short for Tactical Artillery, Man-Portable, this gun is as big as they come. Shaped like a stylized tube that fits over the shoulder, the Overkill is equipped with braces that are designed to clamp onto a variety of power armors, providing extra stability. The Overkill makes use of proprietary magazines of over-sized ammunition, each containing a single colossal round. When fired, it rips to shreds not only the primary target, but also everyone within a 5 m to 10 m radius! You can't go wrong with that sort of bloodshed!

Ammunition

Most projectile weapons require ammunition of some sort—whether bullets, bolts or battery power. These are sold in clips (for ballistic firearms), batt-packs (for laser weapons) or bundles (for bows).

Armor Piercing Ammo

- **Cost Rating:** 4
- **Properties:** Mil (clips for guns with the Mil property only); Pierce 3

Do your enemies wear heavy armor? Bite into it with these armor-piercing clips of ammunition! These bullets are designed with a specially sharpened and hardened nose to resist spreading out when impacted against armor.

Arrows or Bolts

- **Cost Rating:** 1
- **Properties:** —

Arm your bows with the latest and greatest arrows or bolts. Bows and crossbows are of little use without arrows or bolts, respectively. Both arrows and bolts come in bundles of a dozen.

Meat Grinder Ammo

- **Cost Rating:** 4
- **Properties:** Mil (clips for guns with the Mil property only); Shallow

Maximize damage with meat grinder ammunition! Meat grinder ammo is designed to break apart on impact, spreading out and maximizing damage to soft, fleshy tissue. On the downside, it is less effective against armored opponents. Shots hired with meat grinder ammunition increase their damage by +4 regardless of suit, but also have the Shallow property listed above.

Pyrotank

- **Cost Rating:** 4
- **Properties:** Mil

When you have a flamethrower, everything looks like it needs to be set on fire! Make sure to refill your flamethrower regularly with one of these patent-pending pyrotanks! A pyrotank is a container of fluid, flammable chemicals specially designed to work with flamethrowers.

Rocket Ammo

- **Cost Rating:** 4
- **Properties:** Mil (clips for guns with the Mil property only)

Feel no recoil! Rocket ammunition reduces recoil by firing bullets at relatively low velocities. Once fired, these bullets act as small rockets, propelling themselves and accelerating to increased speed after being fired. Shots fired with these bullets do not saddle the attacker with the Spin consequence when in microgravity, however, their damage is halved if the target is within 10m.
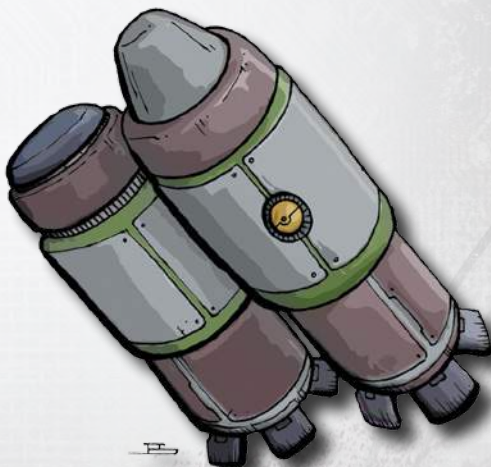
Armor

Humanity as a whole is gripped with a deep-seated desire to continue living. Towards this end, a variety of armor has been invented to aid in survival.

Archaic Armor

As with archaic weapons, archaic armor has fallen out of favor in lieu of modern armaments. Nevertheless, archaic armor continues to exist and may be encountered occasionally, particularly among those of the Neoret subculture.

Chainmail

- **Cost Rating:** 4
- **DR:** 3
- **Properties:** Worn

Wear the best in archeo-chic! Chainmail armor is made up of many tiny metal loops. Each loop interconnects with other adjacent loops, creating a sheet of metallic protection. This is then fitted to the wearer's body.

Leather Armor

- **Cost Rating:** 3
- **DR:** 2
- **Properties:** Worn

Great beginner gear for the medieval-chic Neoret! Comes in both historical and designer colors! Leather armor is a suit of armor made from flexible leather. This allows for maximum mobility, while still being armored head to toe.

Platemail

- **Cost Rating:** 5
- **DR:** 4
- **Properties:** Big 5; Bulky 2; Worn

Glean like the knights in those big-budget fantasy vids! Full Plate armor is the ultimate in medieval-style protection. It consists of multiple large metal plates fitting together to protect the entire body.

Shield

- **Cost Rating:** 4
- **Damage:** ♠Str×3+6L / ♥Str×2+2L / ♦Str+1L / ♣½StrL (Improvised)
- **Properties:** Big 2; Defensive L

Every historical outfit needs its accessories. Try a shield! A shield is basically a portable piece of cover that straps to the arm and which can be used to avoid attacks. Shields are usually made out of metal, although wood and plastic shields both exist.

Vac Suits

The following are additional models of vac suits in common use throughout the Sol system.

Xenocom "Clam" HEV Suit

- **Cost Rating:** 8
- **DR:** 5
- **Properties:** Big 5; Bulky 2; Vac; Worn

Going where no lesser vac suit has gone before, the Xenocom "Clam" HEV Suit is designed with state-of-the-art materials to operate in even the most hostile environments. Extreme pressures, temperatures and radiation are little threat to this baby! Lasts up to six hours without recharge. AR link included.

Environment Suits

Human life can't exist for long in space without a working environment suit. These suits are literally lifetimes throughout the Sol system. As such, it may be useful to take a more in-depth look at the capabilities of these suits, as well as their limitations.

A typical environment fits a 6 hour supply of air and operates under its own power for up to 8 hours. Most suits carry their air in compressed canisters that attach to the hips or arms. Most suits have two such canisters for reasons of safety and redundancy. These canisters can be changed in the field by swapping them out for extra air canisters, carried in a backpack or similar container.

During long jobs most environment suits don't operate under their own power, but rather draw power from a nearby ship of station. This power attaches to the suit via a long cord, usually attached to the back of the suit. This cord doubles as a lifeline, preventing the person in the suit from drifting too far away. Once depleted, a suit's battery typically takes about 4 hours to recharge fully.

The visor of most recent environment suits serves as an AR display. This display connects wirelessly to a hand terminal or other nearby computer. This display can also be used in two-way communications to nearby ships, stations or people via radio communications.

Almost all environment suits are capable of maneuvering under their own thrusters. These thrusters are limited, and are intended for short-term maneuverability or emergencies. They function by releasing gas in the direction the suit moves away from. This gas is replenished through the "waste" air breathed out by the suit's occupant. Maneuvering using thrusters is typically a Dex/vehicles action.

Most environment suits are capable of operating in complete vacuum, and in pressures up to 100 atmospheres. They can operate in temperatures ranging from -200°C and up to 200°C. They are capable of protecting against typical space radiation, but this shielding can begin to fail during situations of extreme radioactive intensity, such as a moderate to severe solar flare, as well as some of the more intense regions of Jupiter's radiation belt.

Xenocom "Space Dust" Military Vac Suit

- **Cost Rating:** 12
- **DR:** 10
- **Properties:** Big 5; Bulky 2; Mil; Vac; Worn

Designed with protection from both hostile environments and hostile laser fire in mind, the Xenocom "Space Dust" Military Vac Suit is a marvel of engineering. No spacefaring military should be without a complete set! Batteries last up to six hours. Compressed air canisters and leak repair strips are located on both hips. AR link included. Military insignia comes etched in at no extra cost.

Implants

Humanity had developed a wealth of different implants over the centuries, even if implants are currently out of fashion. The following is a list of additional implants designed to augment the list found in the *Shadows Over Sol* core rulebook.

Cyber-Claws

- **Cost Rating:** 6
- **Damage:** ♠Str×3M / ♥Str×2M / ♦StrM / ♣Str×½M
- **Properties:** Conceal 4; Implant 1

Are knives passé? Try claws! These are a set of implanted retractable metallic claws that extend from the hand or wrist. Claws range from 5 cm to 10 cm in length, and are designed for easy concealment. These claws can be used to slice ropes, fabrics, plastics and human flesh!

Cyber-Eyes

- **Cost Rating:** 9
- **Properties:** Implant 2

Now available in "demon red" and "spectral purple!" Not only do cyber-eyes come in a variety of fun colors, they also help you see in the dark! Why use inferior "normal" eyes? Cyber-eyes come with an inbuilt AR display, auxiliary membrane for protection underwater or in dusty environments, the capability to see into the infrared and ultraviolet parts of the spectrum and automatic motion detection. They count as superior tools (+2) for takes focused primarily on the powers of visual observation. They also halve any penalties from darkness.

Knife Implant

- **Cost Rating:** 5
- **Damage:** ♠Str×3M / ♥Str×2M / ♦StrM / ♣Str×½M
- **Properties:** Conceal 2; Implant 1

Knives: never leave your hab without one! This is a 10 cm to 15 cm blade that extends from the forearm or behind the elbow. The blade can be extended with the correct flick of the wrist, and is otherwise is retractable.

Lung Implant

- **Cost Rating:** 8
- **Properties:** Implant 2

The Earth's surface is 71% covered by water. Expand your boundaries! This versatile implant adds an extra device between the lungs, capable of processing oxygen from water and storing its own air supply. This allows the recipient to not only breathe underwater, as if with gills, but also to rely on her own compressed internal air for up to an hour. This can negate the effects of air of the wrong composition, and the asphyxiation effects of vacuum exposure.

Redundant Organs

- **Cost Rating:** 9
- **Properties:** Implant 2

This expansive implant includes a handful of artificially grown multipurpose organs that conveniently slip into the body cavity between the recipient's natural organs. When the natural organs begin to fail, these auxiliary organs take over, keeping the bodily systems functioning until medical aid can be applied! This increases the recipient's Shock threshold by +2.

Sensory Recorder

- **Cost Rating:** 5
- **Properties:** Implant 1

Be your own AR star! Record your senses! A slim implant that wires into the two lobes of the brain, a sensory recorded detects the electrical impulses that translate to sensory input, and records these impulses on a dedicated microcomputer. This microcomputer then typically wirelessly transmits the data to an external machine, where the senses can be played back using VR or AR. These implants are used to record a variety of full-sensory entertainments, as well as to document evidence. The microcomputer itself can only hold an hour's worth of recordings before it is full and needs to delete or transmit the extra data.

Skeletal Plating

- **Cost Rating:** 9
- **Properties:** Implant 2

Have you ever wanted a skull that will not crack, or ribs that will not cave in with the force of a concussive blow? If the answer is yes, you want this implant! If the answer is no, don't find out too late that you wanted this implant all along! Included is a complete treatment of metal planting that helps strengthen the recipient's entire bone structure (ear bones excepted). This increases the recipient's Wound threshold by +2. Additionally, if the recipient would receive a lingering injury that would result in broken bones, flip a card. On a red card the injury is as described. On a black card, it is negated.

Smuggler's Pouch

- **Cost Rating:** 4
- **Properties:** Conceal 4; Container 1; Implant 1

Have something you need to hide? Put it in a smuggler's pouch! A smuggler's pouch is a small implanted pocket hidden in some fleshy area of the body. Smuggler's pouches are designed to close in such a way as to not be obviously. Pouches are capable of holding one small object—certainly nothing with the Big property—or several tiny objects with the Neg property.

Subdermal Weave

- **Cost Rating:** 9
- **Properties:** Implant 2; Mil

Protect your innards with this essential implant! A subdermal weave consists of a tight mesh of narrow fibers with a high tensile strength that run just under the skin, and which extend to cover most of the body. When these fibers encounter a force—such as a bullet entering the body—that attempts to break them, they bond together to provide resistance. This grants +2 DR.

Voice Distortion Implant

- **Cost Rating:** 7
- **Properties:** Implant 1

"Hello, it's your mother calling..." It's not, but now you can sound like her! This implant allows the recipient to distort her voice, preventing audio recognition and imitating the voices of others. Vocal imitation requires an audio sample of the original voice—the more the better. Getting the voice right is a Chr/deception action (usually TN 10, but may vary with quality of audio sample). A voice distortion implant counts as superior gear (+2) when masquerading as another.

Drugs

Drugs see a wide variety of uses in the future of *Shadows Over Sol*. Their use ranges from professional medical prescription, to recreational, from self-medication to performance enhancement.

Medical Drugs

Science has produced a wealth of drugs, many of which see use in the twenty-third century. Below are a few additional medical drugs to supplement the list already found in the *Shadows Over Sol* core rulebook.

Coaguline

- **Cost Rating:** 4
- **Properties:** Neg

Don't let yourself bleed to death. Fight bleed with coaguline, the number one doctor-recommended blood clotter! While under the effects of coaguline, any character suffering from the Bleeding consequence due to literal blood loss may reduce her Bleeding consequence one severity every round. This occurs immediately after she takes the usual wound from the consequence. Coaguline does not affect the Bleeding consequence due to other sources of ongoing damage, such as being on fire. One dose of coaguline lasts 10 minutes. Pack of 10 doses.

Emozodone

- **Cost Rating:** 3
- **Properties:** Neg

Nervous? Depressed? Do worries have you down? Deaden your feelings with emozodone! Those under the effects of emozodone gain a +4 bonus to actions where failure would impose the Desire, Fear or Fixated consequences. Additionally, a +4 bonus is gained on actions to resist the effects of these consequences. As a side effect of this emotional deadening, the character also cannot gain the Bolstered consequence while under the effects of emozodone. One dose of emozodone lasts 10 minutes. Pack of 10 doses.

Recreational Drugs

Recreational drugs use is found across almost all subcultures, even if the Heeds have claimed it as emblematic of theirs. Below are a few common recreational drugs that may see use in a *Shadows Over Sol* campaign.

Hype

- **Cost Rating:** 3
- **Properties:** Neg

We all need to focus sometimes. Got some research to do? Got to sift through for data for an investigation? No problem. Hype is there for you. It's like a hug for your brain. It suppresses appetite, too, for all your dieting needs. While on the effects of hype a character gains the Fixated (moderate) consequence targeted at whatever she was initially focusing on. Additionally, she gains a +4 bonus on actions to resist hunger. One dose of hype lasts 1 hour. Baggie of 10 doses.

Stim

- **Cost Rating:** 4
- **Properties:** Neg

Life got you down? Feel on top of the world. Feel invincible. Feel full of energy, spit and vigor. Try a little stim. Under the effects of stim a character may ignore any penalties from the Fatigue or Fear consequences. After

this effect wears off the recipient increases her Fatigue consequence a severity. One dose of stim lasts 1 hour. Baggie of 10 doses.

Tranq

- **Cost Rating:** 2
- **Properties:** Neg

Hey, buddy. Doesn't it feel nice just to zone for a while? To relax and unburden your shoulders for a bit. Imagine you could relax like that, except times ten! Times one hundred! That's tranq. A character under the effects of tranq cannot gain or suffer the effects of the Bolstered, Desire or Fear consequences. Additionally, she receives only 2 AP each round of combat, should she engage in combat under the influence. One dose of tranq lasts 1 hour. Baggie of 10 doses.

Tweez

- **Cost Rating:** 3
- **Properties:** Neg

I'm not going to give you all that "one with the universe" bullshit, even though if that's what you want, tweez is your drug. What I'm going to say is: tweez is a hell of a trip, and you're really missing out if you haven't seen the world's colors swim before your eyes at least once. Tweez causes a variety of hallucinations. Whenever a character under the effects of tweez would suffer either the Desire or Fear consequences, flip a card. If the card is red, increase the imposed consequence a severity. If the card is black, decrease the imposed consequence a severity. One dose of tweez lasts 1 hour. Baggie of 10 doses.

Tools

A variety of tools make life in space easier, while others are virtually essential. Below are a few additional tools to supplement those found in the *Shadows Over Sol* core rulebook

Wearables

Some tools are intended to be held in hand; others are meant to be worn. The following tools enhance the capabilities of the wearer when donned and used appropriately.

Exosuit

- **Cost Rating:** 7
- **Properties:** Big 3; Bulky 1; Str 5; Worn

Don't hurt your back. With an exosuit there's little you can't lift! This external suit and frame augments the wearer's strength via powered joints and hydraulics. While somewhat bulky, this allows the wearer to move around disastrously heavy objects. Exosuits cannot be worn at the same time as any armor with the Bulky property.

Utility Belt

- **Cost Rating:** 2
- **Properties:** Container 2; Worn

This handy utility belt is designed to tote a variety of tools, implements or other useful objects. Coming complete with a full set of loops, pouches, buckles and straps, a utility belt is a must-have accessory for any engineer or scientist!

Covert Ops

Espionage is a common occurrence in the twenty-third century, from corps battling over trade secrets to conspiracies silencing their enemies. Many things happen behind closed doors—things others might want exposed to the light of day.

Biometric Collection Glove

- **Cost Rating:** 5
- **Properties:** —

Facing a biometrical locked door or other security measure? Bypass it with the target's own data! This innocuous-looking device can be used to collect the biometric info for unsuspecting bystanders. Simply shake the hand of your target and the glove does its work! It collects a DNA sample and fingerprint data. Wave it in front of the target's face to collect iris information. The glove connects wirelessly to paired computers to transmit collected information.

Biomorphic Mask

- **Cost Rating:** 6
- **Properties:** —

If you're going to disguise yourself, go big or go home! This state-of-the-art mask is made from a combination of plastic and actual flesh, grown to look like the disguise's target. Just open the Fresh Seal™ bag, take out the task and press it to your face. Within five minutes the adhesive takes hold, making you look exactly like whomever the mask was designed to imitate! Celebrities? Old enemies? Old friends? It does it all.

All biomorphic masks must be ordered with one specific face they are made to imitate. Specific people require extensive facial data. Generic faces are also available. Each biomorphic mask is single-use and adheres to the face for a week, or until a solvent is applied. After a week's up, the mask begins to peel off in strips. Needless to say, these masks do nothing to change one's voice or body appearance. Wearing a biomorphic mask counts as superior tools when disguising oneself.

Comm Jammer

- **Cost Rating:** 7
- **Properties:** Area 50

Seize the tactical advantage with a comm jammer! Once activated, a comm jammer is designed to give off a powerful broadcast of white noise on a wide spectrum of frequencies. This disrupts any radio-based communication within 50 m. Laser-based communication is not affected. Comm jammers have a battery life that is designed to last an hour.

EMP Charge

- **Cost Rating:** 5
- **Properties:** Area 10
- **Critical Effect:** Double the number of rounds the device is shut down. This effect must be chosen if a critical hit is scored with this weapon.

An EMP charge is a small device that releases a powerful electromagnetic pulse. This disables any electronics within 10 m that aren't specifically hardened against EMP. This includes lasers, shocksticks, monowhips, computers, mechanical implants, drones and more. Older electronics may be unable to remover from

this pulse—being fried for good, unless repaired. Modern electronics are able to recover from an EMP pulse. For every piece of equipment affected, the wielder should draw a card when the equipment is next used. On any result but a joker, the electronics have been shut down. They will remain shut down for the value of the card in rounds—counting from the round the device was last affected by the EMP cannon. EMP charges are only good once, functioning similarly to a shaped charge or grenade.

Microtracker

- **Cost Rating:** 4
- **Properties:** Neg

Need to know where someone is going? A microtracker is a small device—no larger than grain of sand—that is designed to adhere to whatever it is placed against. Once activated, the microtracker can be configured to either periodically or continuously broadcast its location via an embedded radio comm. Those knowing the right frequency to listen on can pick up this broadcast. Most micro-trackers have a battery life designed to last for several days.

Suicide Capsule

- **Cost Rating:** 3
- **Properties:** Neg

Don't get caught alive. If you have to be caught, be caught dead! This is a small capsule that fits in the mouth, usually embedded in a tooth. By speaking the programmed activation phrase, the capsule is activated and applies a lethal dose of poison into the wearer's bloodstream, killing her within seconds!

Fabricators

Fabricators are the evolutionary result of 3D printing technology. The idea is simple: put in some proprietary pellets of the source material, set the fabricator to print out what you need and then wait a few hours or days until the tool you need is ready.

This works wonders for tool versatility, but it's still far from being magic. All fabricators are limited by the size of their output, the source material at hand and the appropriate design pattern for the output. Most are also highly specialized in their output—only printing foods, ceramics, or electronics, etc. Many are also limited to proprietary material pellets or designs.

Household fabricators typically print only a few materials and thus are capable of producing only simple tools. A hammer, for instance, might be easily fabricated, whereas a plasma torch—a complex piece of machinery which must contain plasma's heat—would be neigh impossible. Similarly, an electronics fabricator may be able to print a replacement circuit board for a ship's computer, but it wouldn't be able to print the entire computer itself. As a rule of thumb, fabricators have difficulties with anything that requires moving parts. Even very basic mechanical moving parts—levers, wheels or gears—are going to require assembly after fabrication.

The fabricators listed below represent fabricators that might see private use on the go. Larger building-sized fabricators exist, as do more specialized ones meant for industrial manufacturing. These are obviously more expensive and have more extensive requirements.

General Fabricator

- **Cost Rating:** 9 (Small), 11 (Medium) or 13 (Large)
- **Properties:** Big 5 (Small), Big 10 (Medium) or Big 20 (Large)

Print what you need with one of these general fabricators! A general fabricator is a multipurpose tool, capable of printing objects with a variety of materials and compositions. Just add the appropriate source pellet! Small fabricators can produce simple objects up to 30 cm at their longest dimension. Medium fabricators can produce objects up to 1 m, and large fabricators can produce objects up to 2 m!

Specialized Fabricator

- **Cost Rating:** 7 (Small), 9 (Medium) or 11 (Large)
- **Properties:** Big 5 (Small), Big 10 (Medium) or Big 20 (Large)

Have a specialized use for a fabricator that doesn't require the breadth or expense of a general fabricator? Try a specialist fabricator! All specialist fabricators are optimized for producing a specific category of items. Try the food fabricator for succulent delights or the electronics fabricator for printing a variety of circuit boards or transistors! Small fabricators can produce simple objects up to 30 cm at their longest dimension. Medium fabricators can produce objects up to 1 m, and large fabricators can produce objects up to 2 m!

Source Pellet

- **Cost Rating:** 2 (Common) or 7 (Rare)
- **Properties:** —

Fabricators are expensive paperweights without genuine source pellets! Each source pellet is a homogenous block of specific material ready for use by the fabricator in printing. Different designs require different materials, some of which are more rare and expensive than others. Common materials include ceramics, plastics, foodstuffs or base metals. Rare materials include complex compounds, uncommon metals or purified semiconducting materials. Small objects (up to 30 cm) typically require 1 pellet, medium objects (up to 1 m) require 4 and big objects (up to 2 m) require 16.

Fabricator Madness

More than most technologies, fabricators require special attention from the GM. If left unchecked, their widespread use may undermine the scarcity of resources that gives a horror game its tone of desperation.

GMs are advised to make ample use of requiring rare source pellets for exotic or dangerous gear. Additionally, unusual or military-restricted equipment might require that extra steps are taken to gain the technical specifications necessary for their fabrication. To obtain these specs, the crew might have to hack into a corp's secure computer systems, conduct a heist to gain the physical specifications or design their own specs using the engineering system.
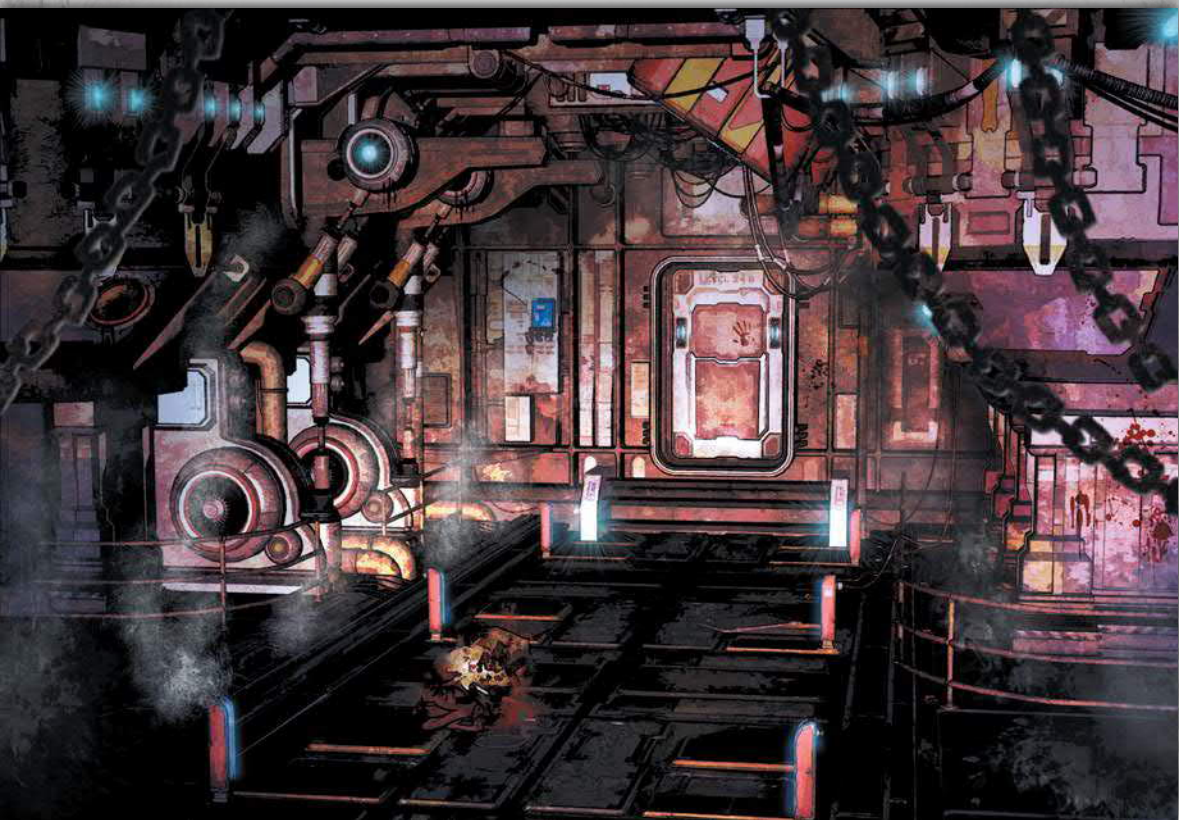
Computers & Electronics

Computers and other electronics make the world go round. They are essential accessories for most anyone in the twenty-third century. Below are a few additional hardware peripherals and software suites to supplement those found in the *Shadows Over Sol* core rulebook.

Hardware

No software runs without the appropriate hardware. Below is a selection of additional hardware for one's computing pleasure.

EMP Hardening

- **Cost Rating:** 6
- **Properties:** Bulky 1 (see description), Neg

Electronics are vital to your life, so protect them like family. Choose EMP hardening! EMP Hardening is a treatment and set of rigid shielding that can be applied to an electronic device in order to protect it against electromagnetic pulses or other forms of electronic attack. When a device with EMP hardening is targeted by an EMP-based attack, such as with an EMP charge or Microdyne 3a EMP Cannon, draw a card as usual. The EMP only affects the device if a joker is drawn.

EMP hardening consists of a rigid set of shielding that resists radiation. This does not impede a device that does not move of its own volition, such as a computer or laser. For devices that have their own mobility, however, this shielding can hamper movement. Androids, drones or other robots can receive EMP hardening, but this imposes the Bulky 1 property on them.

Wireless Controller

- **Cost Rating:** 4
- **Properties:** Neg

Start your coffee from across the station! A small device with a wireless receiver, embedded dedicated microcomputer and a variety of plugs—a wireless controller can be wired into most electronic devices. Once connected, the wireless controller allows wireless control of the connected device via commands from a hand terminal or other computer. A wireless controller runs on battery power and typically has around a month of active battery life.

Software

Software is essential to making computers into more than fancy toys. A variety of software sees use across the Sol system, including the software listed below.

Media Editing Suite

- **Cost Rating:** 5 (Basic), 9 (Superior)
- **Software Rating:** 5 (Basic), 7 (Superior)
- **Properties:** —

Need to edit or manipulate photos, images, videos or other electronic documents? You need a media editing suite! A media editing suite allows for all manner of special effects or forgeries when creating or editing documents. Doctoring a piece of media in this way is a Per/comp-ops action, possible opposed by the scrutinizer's Per/investigate. Documents can be altered without a specialized media editing suite—relying instead only on freely available software—but this is considered improvised (-2) tools. The basic media editing suite counts as sufficient tools, while the superior version counts as superior (+2) tools.

Scientific Suite

- **Cost Rating:** 5 (Basic), 9 (Superior)
- **Software Rating:** 5 (Basic), 7 (Superior)
- **Properties:** —

Have some serious scientific work to do? Need access to a variety of computationally intensive algorithms or other analyses? Want to track the provenance of your data? A scientific suite will help you out! A basic scientific suite counts as sufficient tools when doing scientific analyses, the superior version counts as superior (+2) tools. A particular suite is keyed to one area of scientific knowledge, for example: Bio-Sci, Phy-Sci or Engineering.
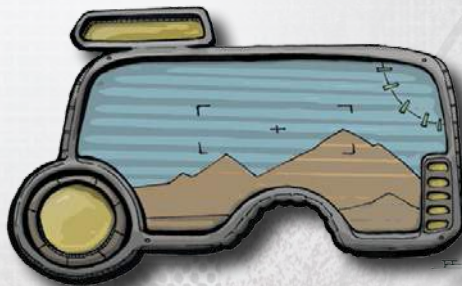
Drones

Drones are small, robotic remote controlled vehicles that can be used for surveillance, exploration or even combat. They have seen uses ranging from finding paths through minefields without loss of human life, to corp surveillance, from bombing campaigns to contemporary gladiatorial matches.

Drones In Combat

Controlling a drone in combat requires an interact action every round, otherwise the drone either idles or does exactly what it did the round before, moving forward without regard to its surroundings.

The drone's controller makes any flips required by the drone using her own skills and the drone's stats. Typically, this is either a Dex/vehicles action to maneuver, or a Dex/ordnance action to make attacks, should the drone be capable.

Controlling a drone benefits from a character's full attention. If the controller spends 3 AP to control a drone, the drone's actions are made at no penalty. If the controller spends 2 AP to control a drone, the drone's actions are made at a -2 penalty. Finally, if the controller gives only the most minimal of attention to the drone, spending 1 AP, all actions made by the drone are at a -4 penalty.

Every drone has its own AP which the controller can use to declare actions for the drone every round. Unlike most characters, a drone only gets 2 AP per round due to its remote controlled nature.

List of Drones

A list of common drones can be found below. All are designed for use either in a full atmosphere or on a surface with significant gravity.

Drone Combat Example

Vibol has a combat drone that he is using to attack a former business associate. Once combat begins, on the first round Vibol declares an action to control the drone in Phase 3. This gives his full attention to the drone, giving no penalties to the drone's actions. Since he is controlling the drone, he also can spend 2 AP for the drone to take actions. He declares an action for the drone in Phase 2 to attack his associate with a gun. When Phase 3 executes it will be noted that Vibol is controlling the drone, and when Phase 2 executes Vibol will make a Dex/guns vs. Defense action for the drone, at no penalty.

The next round Vibol wants to take cover. He declares this for Phase 2 and declares to control his drone in Phase 1. This will give a -4 penalty to actions taken by the drone, since Vibol is multitasking. Vibol uses the drone's AP to declare an attack in Phase 1, holding one back to use as a dodge should it become necessary.

Combat Drone

- **Cost Rating:** 10
- **Properties:** Big 5

Str 5, **Dex** 6, **Spd** 7, **End** 8, **Int** 5, **Per** 6, **Chr** 1, **Det** 8

Defense 10/20, **DR** 3, **Shock** 18, **Wound** 6

Ballistic Gun: +6 (♠15M/♥10M/♦5M/♣2M), Autofire 2, Range 10, Shots 20

Saw Limb: +3 (♠15M/♥10M/♦5M/♣2M), Improvised

Flight: Combat drones can fly at twice normal movement rates.

Machine: As a machine, a combat drone is immune to metabolic hazards, as well as emotionally-based consequences.

Size -1: Combat drones are small and nimble. This has been factored into the drone's Defense and Shock.

Fight from the comfort of a nearby recliner! A combat drone is a small vehicular robot about the size of a medium-sized dog. It is lifted by four helicopter-like rotors, and is a must-have for tactical combat. Attached is a ballistic gun and two extendable metal limbs with spinning saw blades! While combat drones are by no means silent, what they lack in stealth they make up for in deadliness.

Crawler

- **Cost Rating:** 7
- **Properties:** Big 3

Str 2, **Dex** 6, **Spd** 4, **End** 6, **Int** 4, **Per** 6, **Chr** 1, **Det** 4

Defense 10/18, **DR** 0, **Shock** 8, **Wound** 4

Crawl: Crawlers are propelled by numerous small limbs that allow it to maneuver into crevices and down pipes. These legs are also capable of clinging to walls and ceilings.

Machine: As a machine, a crawler is immune to metabolic hazards, as well as emotionally-based consequences.

Size -2: Crawlers are small and mobile. This has been factored into their Defense and Shock values.

Need to know what's through an air duct or vent? Explore hard to reach locations with a crawler! A crawler is a small, surface-bound drone with a flexible body that is propelled by many tiny legs. These legs are hooked, allowing the crawler to explore drains, pipes, crevices and even walk up many walls.
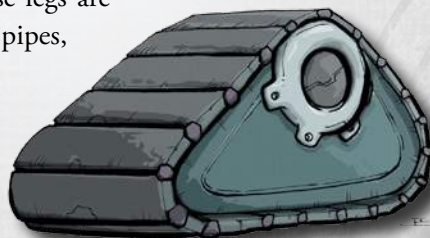
Scout Drone

- **Cost Rating:** 9
- **Properties:** Big 3

Str 3, **Dex** 5, **Spd** 8, **End** 4, **Int** 5, **Per** 8, **Chr** 1, **Det** 5

**Defense** 12/23, **DR** 0, **Shock** 7, **Wound** 3

Flight: Scout drones can fly at twice normal movement rates.

Machine: As a machine, a scout drone is immune to metabolic hazards, as well as emotionally-based consequences.

Size -2: Scout drones are small and quick. This has been factored into the drone's Defense and Shock.

Wide-Spectrum Vision: Scout drones can scan into the infrared and ultraviolet. This allows them to ignore darkness and some other sight-based penalties.

Don't be caught by surprise: explore the world around you! Scout drones are small, nimble drones used to detect intruders, or to do the work of a forward observer. As with other popular aerial drones, they are held aloft by four helicopter-like blades.
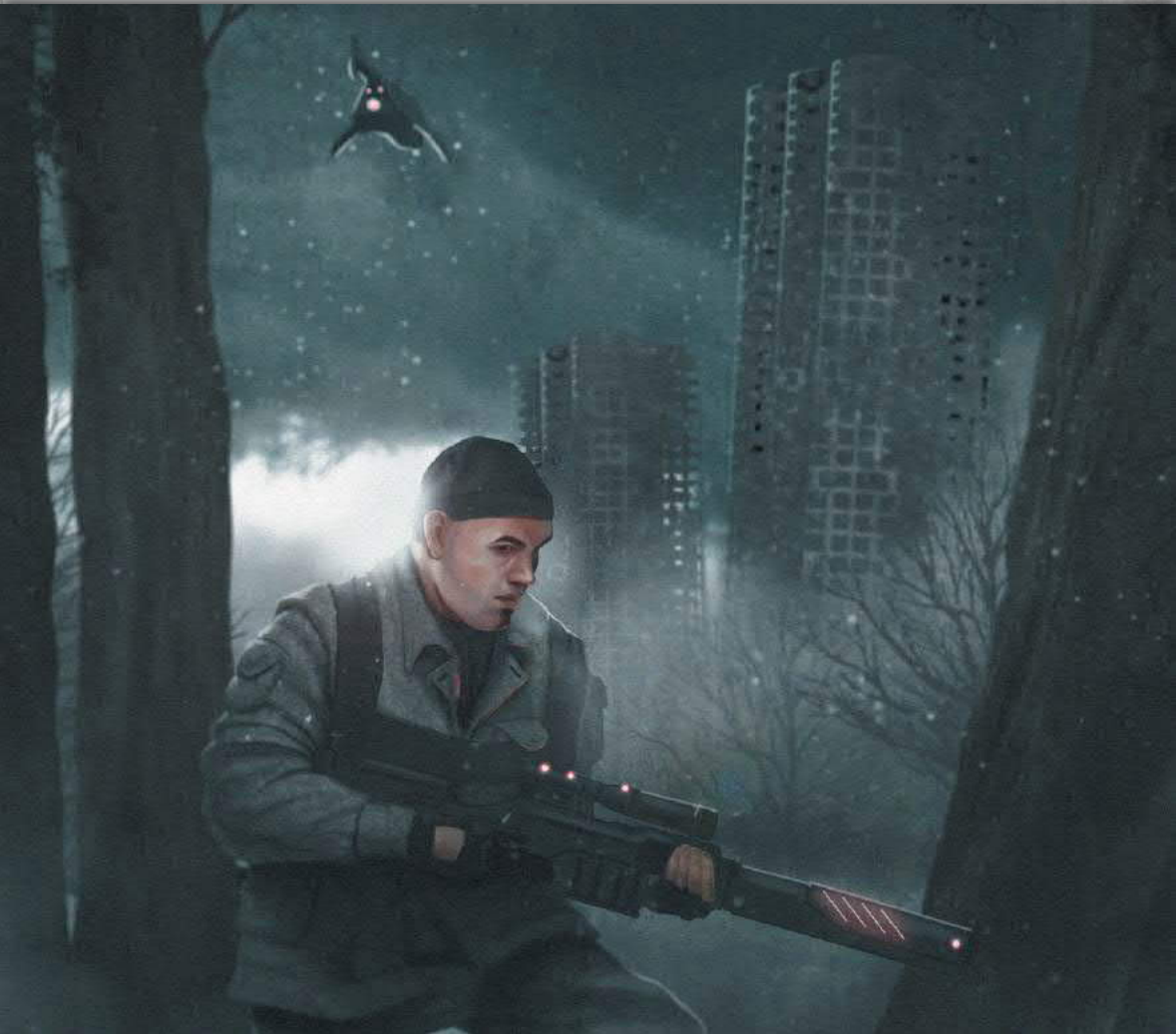
Vehicles

Vehicles are necessary for getting to anywhere but the most local of destinations. While companies specializing in mass transportation own most vehicles in the Sol system, some are privately owned by wealthy individuals.

Civilian Spacecraft

Ever since humankind made its first step off Earth and out into space, people have needed spacecrafts to get them where they are going. In the future of **Shadows Over Sol**, space travel has become fairly commonplace.

P&W "Solar Wind" Yacht

- **Cost Rating:** 15
- **Handling** 0, **Defense** 7/15, **DR** 2, **Shock** 13, **Structure** 6, **Cruise** 6
- **Components:** Armor 2, Attach Point, Cargo Bay 2, Comms Array, Control Room, Habitat (10 people), Heat Sink 1, Med Bay, Sensor Array, Stasis Pods (10 pods) 1, Thorium Reactor (Small, Power), Yacht (Hull)
- **Properties:** Vehicle
- **Laser Comm:** +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

Find yourself in the lap of luxury with this state-of-the-art and excessively extravagant spacefaring yacht! Designed to be both stylish and comfortable, the Pfeiffer & Wu "Solar Wind" Yacht is the size of a small freighter and has a sleek curve to its hull, giving the illusion of an atmospheric vehicle. Even the engineering room is designed to fit the luxurious vibe, possessing a molded wooden facade made with real wood!

Unitech CF-7 Multipurpose Freighter

- **Cost Rating:** 14
- **Handling** -2, **Defense** 6/13, **DR** 2, **Shock** 14, **Structure** 7, **Cruise** 5
- **Components:** Armor 2, Attach Point, Cargo Bay 13, Comms Array, Freighter (Hull), Habitat (5 people), Sensor Array, Stasis Pods (5 pods), Thorium Reactor (Small, Power)
- **Properties:** Vehicle
- **Laser Comm:** +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

The CF-7 is the workhorse of the Sol system—and with good reason! Doubling as both a cargo freighter and a passenger ship with the right internals, the Unitech CF-7 Multipurpose Freighter balances economy with reliability. Shaped like a long tube with a protrusion on the back for the thorium stack and engines, the CF-7 may not be pretty, but it gets the job done!

Unitech CF-8 Heavy Freighter

- **Cost Rating:** 17
- **Handling** 0, **Defense** 7/15, **DR** 2, **Shock** 16, **Structure** 9, **Cruise** 8
- **Components:** Armor 2, Attach Point, Cargo Bay 23, Comms Array, Freighter (Hull), Habitat (5 people), Sensor Array, Stasis Pods (5 pods), Thorium Reactor (Small, Power)
- **Properties:** Vehicle
- **Laser Comm:** +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

Don't waste time and money with small hauls! The Unitech CF-8 Heavy Freighter is one of the largest freighters on the market, and it's virtues don't end there! Not only is this marvel spacious, it's also deceptively agile! No expense has been spared giving this top-of-the-line freighter all the pep and automated guidance needed to handle like a dream!

Unitech CH-9 Harvester

- **Cost Rating:** 14
- **Handling** -1, **Defense** 7/14, **DR** 3, **Shock** 14, **Structure** 6, **Cruise** 3
- **Components:** Armor 3, Cargo Bay 1, Comms Array, Habitat (5 people), Harvester (Hull), Harvester Arm, Mining Bay, Sensor Array, Stasis Pods (5 pods), Thorium Reactor (Small, Power)
- **Properties:** Vehicle
- **Harvester Arm:** +3 (♠6M/♥4M/♦2M/♣1M) (Improvised)
- **Laser Comm:** +3 (♠15L/♥10L/♦5L/♣2L), Range 10M (Improvised)

The CH-9 Harvester is the latest from Unitech! The most common type of ship to regularly make landings, although not on high-gravity bodies. Harvesters typically make contact with an asteroid or small moon and commence harvesting! Equipped with drills, collection holds and a singular harvester arm, these ships are typically only slightly larger than shuttles, being deigned to dock with freighters and stations. No mining team should leave station without one!

Unitech CS-1r Ship's Shuttle

- **Cost Rating:** 10
- **Handling** 0, **Defense** 7/15, **DR** 0, **Shock** 9, **Structure** 4, **Cruise** 1
- **Components:** Auxiliary Thrusters 2, Battery Array (Power) 1, Cargo Hold 6, Habitat (5 people), Shuttle (Hull)
- **Properties:** Vehicle

Since large ships rarely hard dock, shuttles are commonly used to go between larger vessels. The CS-1r is the latest in Unitech's line of CS-1 shuttles, coming equipped with enhanced maneuverability as well as a one-day battery life. Most shuttles are designed to magnetically clamp on to the side of larger ships and to operate at short ranges from their host vessels.

Military Spacecraft

Military spacecraft are used throughout the Sol system to project strength and to enforce the will of the corp or other organization pulling the purse-strings. During battle, the crews of military ships always wear space suits and the atmosphere is always voided from the craft during battle to prevent fires or catastrophic explosions due to the presence of oxygen if the ship takes damage.

Unitech MB-8 "Annan" Battleship

- **Cost Rating:** 20
- **Handling** -1, **Defense** 7/14, **DR** 20, **Shock** 38, **Structure** 13, **Cruise** 8
- **Components:** Armor 20, Attach Point 4, Battle Pods (15 crew), Battleship (Hull), Comms Array, Control Room, Engine Room, Gauss Cannon 2, Habitat (5 people), Med Bay, Missile Turret 4, Sensor Array, Thorium Reactor (Large, Power)
- **Properties:** Mil, Vehicle
- **Gauss Cannon:** +5 (♠30M/♥20M/♦10M/♣5M), Pierce 20, Range 50M, Reload 5, Shots 2
- **Missiles:** +5 (♠24M/♥16M/♦8M/♣4M), Range 100M

The largest spacefaring vessel on the market, the Unitech MB-8 "Annan" Battleship is a wonder to behold, coming in at over 330m in length. The MB-8 typically carries a compliment of four fighters and has at its center two large gauss cannons, as well as four missile batteries. The cannons take tremendous reserves of energy to fire, and as such, typically fire at the beginning of a battle at a station or other capital ship. Although most of the crew in a battleship have their own combat pods, battleships are spacious enough that the crews often get out and move around when not in combat.

Unitech MC-9 "Victory" Corvette

- **Cost Rating:** 15
- **Handling** 0, **Defense** 7/15, **DR** 5, **Shock** 17, **Structure** 7, **Cruise** 5
- **Components:** Armor 5, Attach Point, Auxiliary Thrusters 2, Battle Pods (5 crew), Comms Array, Control Room, Missile Turret, Sensor Array, Thorium Reactor (Small, Power)
- **Properties:** Mil, Vehicle
- **Missiles:** +5 (♠24M/♥16M/♦8M/♣4M), Range 100M

Sometimes a destroyer or battleship would be overkill, too expensive or simply too risky. These situations call for the Unitech MC-9 "Victory" Corvette. Capable of independent strategic movement, the MC-9 is roughly spherical in shape. It has a sensible, defensive design that minimizes surface area to reduce damage. It also packs a missile turret for offensive action. A complement of five battle pods are there for the crew, and an attach point allows the ship to carry an attached fighter or shuttle.

Unitech MD-7 "Stillwater" Destroyer

- **Cost Rating:** 18
- **Handling** 0, **Defense** 7/15, **DR** 10, **Shock** 23, **Structure** 9, **Cruise** 8
- **Components:** Armor 10, Attach Point 2, Battle Pods (10 crew), Comms Array, Control Room, Destroyer (Hull), Gauss Cannon, Habitat (5 people), Missile Turret 2, Sensor Array, Thorium Reactor (Large, Power)
- **Properties:** Mil, Vehicle
- **Gauss Cannon:** +5 (♠30M/♥20M/♦10M/♣5M), Pierce 20, Range 50M, Reload 5, Shots 1
- **Missiles:** +5 (♠24M/♥16M/♦8M/♣4M), Range 100M

Heavily armored and heavily armed but basically still needle-shaped, the Unitech MD-7 "Stillwater" Destroyer is essentially a giant gauss cannon with many smaller missile batteries sticking out of it. The MD-7 typically carries a complement of four fighters. The MD-7 has little open space with most crew remaining in battle pods, which serve as both stasis pods and life support devices. This allows most of the ship to be voided of air during battle, helping to prevent fires.

Unitech MF-103 "Fire Arrow" Fighter

- **Cost Rating:** 14
- **Handling** +4, **Defense** 9/19, **DR** 5, **Shock** 15, **Structure** 5, **Cruise** 2
- **Components:** Armor 5, Auxiliary Thrusters 4, Battery Array (Power) 2, Fighter (Hull), Missile Turret 1, Streamlining
- **Properties:** Mil, Vehicle
- **Missiles:** +5 (♠24M/♥16M/♦8M/♣4M), Range 100M

The Unitech MF-103 "Fire Arrow" Fighter is a space fighter found throughout the System, whose excellent balance of cost and efficiency has made it the de facto standard. Fighters are short-range ships designed to be carried by or attached to larger ships. Like shuttles, they seldom have their own reactor stack and instead rely on batteries and an ion drive with chemical propellants used to enhance combat maneuvers. A fighter typically contains a cockpit capable of carrying two crew members—usually a pilot and a gunner. They serve as something of a mobile missile platform, capable of operating independently of their host ship should the host suffer extensive damage.

Aerial Vehicles

Between the surface of the Earth and the edge of space lies 100 kilometers of atmosphere, through which countless aerial vehicles fly daily. These range from unmanned aerial drones to extended air busses, carrying hundreds of passengers.

General Aerodynamics AF-12 Atmo Fighter

- **Cost Rating:** 13
- **Handling** +4, **Defense** 9/19, **DR** 5, **Shock** 15, **Structure** 5, **Cruise** 10p
- **Properties:** Mil, Vehicle
- **Guns:** +5 (♠15M/♥10M/♦5M/♣2M), Range 100

Only chumps launch a ground war without air support! The General Aerodynamics AF-12 Atmo Fighter adds some much needed firepower to any terrestrial conflict. Streamlined for speed and precision gunning, the AF-12 is a must-have for any serious military.

General Aerodynamics CX-3 Chopper

- **Cost Rating:** 11
- **Handling** +1, **Defense** 8/16, **DR** 3, **Shock** 13, **Structure** 5, **Cruise** 7p
- **Properties:** Vehicle

The General Aerodynamics CX-3 Chopper has long been the go-to choice of the civilian helicopter market. Known for its flight efficiency and its durable frame, the CX-3 has resulted in fewer deaths per flight than any other chopper available today! When you're on fire and hurtling swiftly downward to your apparent doom, you can thank your lucky stars that you're on a CX-3!

General Aerodynamics MT-17 Air Bus

- **Cost Rating:** 12
- **Handling** -1, **Defense** 7/14, **DR** 3, **Shock** 15, **Structure** 7, **Cruise** 8p
- **Properties:** Vehicle

General Aerodynamics produced the MT-17 in a successful bid to establish the industry standard. The MT-17 is used in numerous mass transit flights. It has a sensible layout, excellent track record and a decent comfort-to-capacity ratio, all backed by twin jet engines and some of the most sturdy wings industry has produced.

Planetary Cruise Values

Why does the aerial fighter have such a larger Cruise value than the space fighter? Remember, spaceships and planetary vehicles use different scales to measure Cruise! For planetary vehicles cruise comes in units of 100 kph normal operating speed. So, for example, if the General Aerodynamics MT-17 Air Bus has Cruise 8p, that means it normally flys at around 800 kph.

Land Vehicles

Down any populated gravity well all manner of vehicles can be found—from groundcars to mag-trains. For the majority of humanity, who may never venture into space in their little lives, these vehicles make up the world around them.

General Aerodynamics QQ-2 Mag-Train

- **Cost Rating:** 12
- **Handling** -2, **Defense** 6/13, **DR** 2, **Shock** 14, **Structure** 7, **Cruise** 3p
- **Properties:** Vehicle

Simply the best modern mag-train, the General Aerodynamics QQ-2 is a beacon of sound engineering and sleek design. The QQ-2 is a single-rail train held ever so slightly in the air by powerful electromagnets. This reduces friction and greatly speeds up the train as it makes its way along the tracks. The structure listed above assumes six cars plus locomotive.

P&W "Freedom" Luxury Groundcar

- **Cost Rating:** 9
- **Handling** +1, **Defense** 8/16, **DR** 2, **Shock** 11, **Structure** 4, **Cruise** 2p
- **Properties:** Vehicle

The Freedom is Pfeiffer & Wu's flagship groundcar—after all, while any private groundcar may be a luxury, to have real style is to have the P&W Freedom! It comes complete with a two-door design, excellent safety features, autonav, a sunroof, high definition display compatible with the latest hand terminals and portable cocktail bar.

USD-10k2 "Domo" Tactical Mech

- **Cost Rating:** 11
- **Handling** +1, **Defense** 8/16, **DR** 5, **Shock** 14, **Structure** 4, **Cruise** 2p
- **Properties:** Mil, Vehicle
- **Guns:** +5 (♠15M/♥10M/♦5M/♣2M), Range 100

The USD-10k2 "Domo" Tactical Mech is a dependable mid-market mecha with attached anti-vehicular guns and auto-stabilizing legs. Bipedal and standing just over 10m tall, the Domo comes equipped with armored plates as well as versatile cockpit in the core of the mech. When you want a mech that will give you best bang for your buck, go with the Domo!

USD-10k21 "Siege-Breaker" Tank

- **Cost Rating:** 13
- **Handling** 0, **Defense** 7/15, **DR** 10, **Shock** 20, **Structure** 5, **Cruise** 2p
- **Properties:** Mil, Vehicle
- **Cannon:** +5 (♠24M/♥16M/♦8M/♣4M), Range 100
- **Overrun:** +5 (♠15M/♥10M/♦5M/♣2M)

You need armor on the battlefield. You need the USD-10k21 "Siege-Breaker" Tank. Complete with military-strength treads, a maximum speed comparable with a sports groundcar and some of the best vehicular armor one can buy, the USD-10k21 is a masterpiece of modern warfare.

Xenocom M2 Motorbike

- **Cost Rating:** 8
- **Handling** +2, **Defense** 8/17, **DR** 0, **Shock** 7, **Structure** 2, **Cruise** 1p
- **Properties:** Vehicle

Peppy and sporty, the Xenocom M2 Motorbike is a small-framed motorbike designed to get you where you need to go. Available in a variety of colors, this bike charges from empty to full in a matter of minutes and can fit down even the narrowest alleyways and service tunnels.

Watercraft

Oceans cover 71% of the Earth's surface, and are home to some of the largest arcologies humankind has ever constructed. Watercraft are essential in transit between these ocean settlements.

Unitech GS-10 Civilian Submarine

- **Cost Rating:** 11
- **Handling** 0, **Defense** 7/15, **DR** 2, **Shock** 11, **Structure** 4, **Cruise** 4p
- **Properties:** Vehicle

The Unitech GS-10 Civilian Submarine is a medium-sized personal sub which holds up to eight people and a moderate amount of cargo. It is perfect for ferrying passengers moderate to long distances between arcologies, tending to aquaculture or even just for the occasional pleasure cruise of the deep.

P&W "Decadence" Luxury Yacht

- **Cost Rating:** 10
- **Handling** +1, **Defense** 8/16, **DR** 2, **Shock** 13, **Structure** 6, **Cruise** 4p
- **Properties:** Vehicle

Sail the great blue seas in the pinnacle of luxury and style—sail them in a Pfeiffer & Wu Decadence luxury yacht! This yacht comes with only the best accommodations, including satellite net access, wood-finished galley, GPS and full telepresence suite.

Shadows Over Sol

What would science fiction be without fantastic technologies or life-changing discoveries? What would it be without climactic spaceship battles or tense standoffs? ***Shadows Over Sol: Shiny New Toys*** is here to help tell these stories, with new weapons, new gear and rules for vehicular confrontation!

Shadows Over Sol: Shiny New Toys is a key supplement for ***Shadows Over Sol***. Its features include:

- Complete vehicles rules, from spaceships to motor bikes.
- A system for space battles and other vehicular combat.
- Design and customize your own spaceship, from selecting a hull to what components are on board!
- More than 30 new arms and armor options, to survive the coming horror.
- Over 80 new pieces of equipment, from fabricators to scout drones!

Tab Creations

SAGA MACHINE